NIGERIA.

ANNUAL

MEDICAL AND SANITARY REPORT

FOR THE YEAR

1922.

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Seamen's Hospital Society
TROPICAL
DISEASES
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MEDICAL AND SANITARY REPORT ON NIGERIA FOR THE YEAR 1922.

CONTENTS.

Annual Medical and Sanitary Report on Nigeria for the year 1922.

ADMINISTRATIVE.

During the period a further reorganisation of the West African Medical Staff has taken place. The following changes from the year 1921 have taken place. The correct number of Medical Officers required by the Colony, if the efficiency of the Medical Staff is to be maintained, should be 96 instead of 90. I understand the reduction was shown in the estimates as it was anticipated that there would be a shortage of officers applying.

The following Offices have been abolished :—

1 Senior Assistant Director of Medical Service.
4 Senior Sanitary Officers.
6 Medical Officers.

The following additional appointments have been created :—

1 Assistant Director of Medical Service.
5 Medical Officers of Health.
1 Government Analyst.

(*a*) *Medical and Sanitary Staff as it should exist, were all vacancies filled.*

1 Director of Medical and Sanitary Service.
1 Deputy Director of Medical and Sanitary Service.
1 Deputy Director of Sanitary Service.
6 Assistant Directors of Medical Service.
1 Assistant Director of Sanitary Service.
4 Medical Officers graded as Specialists.
3 Senior Sanitary Officers.
11 Senior Medical Officers.
90 Medical Officers—W.A.M.S.
5 Medical Officers of Health.
5 Medical Officers, African.

Research Institute.

1 Director of Medical Research Institute.
1 Assistant Bacteriologist.
1 Government Analyst.

(*b*) *Dental Staff.*

1 Government Dental Surgeon.

(*c*) *Tsetse Fly Investigation.*

1 Investigator
1 Entomologist (Special service officer)

(*d*) *Subordinate Medical and Sanitary Staff.*

1 Confidential Clerk
2 Staff Sergeants
1 Medical Storekeeper

6 Sanitary Inspectors
4 Sergeants
1 Male Nurse
1 Mechanic (Dental Assistant).
1 Laboratory Assistant.

(*e*) *Nursing Staff.*

7 Senior Nursing Sisters.
20 Nursing Sisters.

(*f*) *Medical and Sanitary Staff* (*African*).

2 Chief Dispensers.
1 Assistant Chief Dispenser.
13 1st Class Dispensers.
1 Storekeeper and Warden, Lagos Hospital.
54 2nd Class Dispensers.
5 Storekeepers.
1 Theatre Assistant.
1 Laboratory Attendant.
38 1st Class Nurses.
86 2nd Class Nurses.
19 Dispensers-in-training.
73 Nurses-in-training.
3 1st Class Sanitary Inspectors.
10 2nd Class Sanitary Inspectors.
32 3rd Class Sanitary Inspectors.
26 Sanitary Inspectors-in-training.

(*g*) *Medical and Sanitary Clerical Staff* (*African*).

1 Clerk, Higher Division, Grade I.
1 „ „ „ „ II.
17 Clerks, „ „ „ III.
22 „ Lower Division „ I.
15 „ „ „ „ II.
1 Registrar, Vital Statistics.
1 Deputy Registrar, Vital Statistics.

Financial:—

Total Revenue.	1920. £ s. d.	1921. £ s. d.	1922. £ s. d.
Northern Provinces	1,209 2 7	927 2 3	880 3 7
Southern Provinces	4,796 0 7	5,088 3 0	4,771 8 1
Cameroons	—	13 7 6	14 15 10
Total	£6,005 3 2	6,028 12 9	5,666 7 6

Expenditure:—

Personal Emoluments	132,833 16 8	140,560 7 5	145,699 15 4
Other Charges	48,696 11 6	62,490 17 7	57,424 7 4
Total	£181,530 8 2	203,051 5 0	203,124 2 8

PUBLIC HEALTH.

GENERAL REMARKS.

The Returns for the year under consideration are for the combined Colony and Protectorate of Nigeria, including that portion of the Cameroons now under British Mandate.

There is a slight increase in the numbers of Europeans treated.

The following table is of interest in comparing the figures for those Europeans serving under the Old and New Regulations.

The total number serving on the Old Regulations.....1,111.

The total number serving on the New Regulations.....1,157.

RESIDENTIAL SERVICE.

	Under 6 months.		From 6 to 12 months.		From 12 to 18 months.		Total.
	A.	B.	A.	B.	A.	B.	
Old Regulations ...	9	3	6	23	2	7	50
New Regulations ...	4	3	9	22	10	39	87

A denotes Permanent Invalidings—Recommendation.

B denotes Temporary Invalidings—Recommendation.

Total cases treated in Government Hospital and Dispensaries.

	1920.	1921.	1922.
Europeans	5,696	5,919	5,930
Natives	155,253	172,837	161,874
Total	160,949	178,756	167,804

Total Deaths.

	1920.	1921.	1922.
Europeans	27	34	38
Natives	1,503	1,114	953
Total	1,530	1,148	991

The general health of the community, Europeans and Africans, can be considered satisfactory. Malaria is easily the commonest disease in Europeans. The anaemia in Europeans is usually secondary to malaria and digestive troubles, whilst in natives anæmia is undoubtedly due to nematode infection, usually ankylostoma. No severe outbreak of disease occurred in Nigeria during the year. The Northern Provinces were again visited by an outbreak of Cerebro-Spinal Meningitis, but the epidemic was not so severe as in previous years.

Influenza of a mild character and low death rate appeared in the Central Provinces.

COMMUNICABLE DISEASES.

Insect Borne Diseases.

Malaria.—In the Europeans this disease shows a decrease in its incidence in the out-patients and the in-patients as compared with the figures for the year 1921. I trust this is due to the European Officials taking a more reasonable attitude towards the regular taking of quinine. There is also a slight decrease in the number reported amongst the natives.

The Aestivo-autumnal type again is easily at the top of the poll in both Natives and Europeans.

In the last report, that for 1919–1921, the necessity for the employment of a pathologist at each large hospital was pointed out.

It was possible for a portion of the year to employ one at Lagos Hospital. The following statistics give some idea of the amount of work done at the laboratory:—

Blood examined	1,555
Faeces examined	753
Urine „	87
Sputum „	153
Urethral smears examined	22
Other smears „	49
Sachs Georgi and Wasserman	108
Sections cut	77
Post Mortem Examinations	80
Widal reaction	10
Vaccines	11
Blood Counts	14
Ulcer scrapings examined	3
Examination of Colonies from Liver puncture	1
Plating. Faeces Plated...	3
P. M. Cases plated	4

BLACKWATER FEVER.

Thirty-two cases of Blackwater were treated: twenty-eight cases were amongst the European population, with two deaths. This compares favourably with the figures for the year 1921 which were forty-one cases with ten deaths. These cases have been considered in detail in the report of the Medical Research Institute.

YELLOW FEVER.

Two cases of this disease are recorded for 1922. Both cases occurred at Warri in November: one, an Italian, ended fatally, the other, a native, recovered. It is interesting to note that the native case was treated with Noguchi Yellow Fever serum with really remarkable results. The opportunity was also taken to vaccinate the Europeans of Warri with the Noguchi Vaccine. Full detailed reports with various sections have been forwarded to the Rockefeller Foundation who supplied the vaccine and serum. Every credit is due to Dr. T. M. R. Leonard for his careful notes and accurate observation of these cases.

SCARLATINA.

Two cases of this disease were reported from Northern Territories. A report of the cases in detail appears under the head Scientific. Infection evidently was carried abroad in a letter. A similar case occurred some years ago in Northern Territories of the Gold Coast.

These cases are included in Table VI under Other Diseases.

TRYPANOSOMIASIS.

During the year 1922, fifteen cases of Trypanosomiasis came under treatment in the Northern portion of Nigeria, two of them being Europeans and thirteen Natives: four of the latter are recorded as having died. One case, a native of Sierra Leone, who proved refractory to Novarsenobillon and tartar emetic is under treatment at present with "Bayer 205" obtained and forwarded to the Tsetse Investigators, whose reports should be available for the 1923 report.

CEREBRO-SPINAL FEVER.

The outbreak of this disease in the Northern Province is described by the Deputy Director of Sanitary Service under the heading Sanitation.

EUROPEAN OFFICIALS.

The health of the Europeans for the year has been up to standard.

There were 137 invalidings from the Coast, eighty-seven in those serving under new leave regulations and fifty amongst those serving under the old leave regulations.

During the period 1917–1919 the Invaliding and Death Rates of European Officials, per thousand of the average number resident, were as follows:—

	1917.	1918.	1919.
Invaliding	77	128	173
Death	19·6	29·6	19

The following are the figures for the period 1920–1922:—

	1920.	1921.	1922.
Invaliding	132	68·4	97·4
Death	10·9	8·4	5·0

TABLE SHOWING SICK, INVALIDING AND DEATH RATES,

EUROPEAN OFFICIALS—NIGERIA.

	1920.	1921.	1922.
Total No. Resident	1,874	2,039	2,110
Average No. Resident	1,166	1,302	1,406
Total No. on Sick List	1,709	1,801	1,521
Total No. of days on Sick List	12,611	13,821	11,204
Average daily Sick	34·53	37·86	30·69
Percentage of Sick to Average No. Resident ...	2·8	2·9	2·18
Average No. of days to each Patient	6·8	7·6	7·37
Average Sick time to each Resident	10·8	10·61	9·83
Total No. Invalided	154	89	137
Percentage of Invalided to No. Resident	8·2	4·36	6·49
Percentage of Invalided to Average No. Resident...	13·2	6·84	9·74
Total Deaths	23	11	7
Percentage of Deaths to No. Resident	1·22	·53	·33
Percentage of Deaths to Average No. Resident ...	1·09	·84	·50

Neurasthenia once again is one of the chief causes of invaliding amongst European Officials, causing twenty-one cases during the year 1922.

TABLE.

CAUSES OF INVALIDINGS AND DEATHS— EUROPEAN OFFICIALS—NIGERIA.

Diseases.	1920.		1921.		1922.	
	Invalided.	Died.	Invalided.	Died.	Invalided.	Died.
INFECTIVE DISEASES.						
DYSENTERY:—						
(*a*) Amoebic	4	—	1	—	2	—
(*b*) Bacillary	—	—	—	—	—	—
(*c*) Undetermined	—	—	—	—	—	—
Enteric	—	—	2	—	1	—
Paratyphoid	4	—	—	—	—	—
Malaria	10	—	5	—	16	2
Blackwater Fever	11	7	7	3	14	—
Pneumonia...	—	—	1	—	—	—
Pyrexia of uncertain origin ...	1	—	—	—	1	—
Influenza	—	—	—	—	—	—
Acute Rheumatism	—	—	1	—	—	—
Septicaemia	—	—	—	—	—	—
Variola	—	1	—	—	—	—
Tuberculosis	2	—	2	—	2	—
GENERAL DISEASES:—						
Anaemia	14	—	10	—	14	—
Splenic Anaemia	—	—	—	—	—	—
Diabetes	—	—	—	—	1	—
Gout...	2	—	—	—	—	—
Tropical Debility	—	—	6	—	9	—
NERVOUS SYSTEM:—						
Neuritis	2	—	1	—	3	—
Meningitis	—	2	—	—	—	—
Sciatica	2	—	1	—	—	—
Peripheral Neuritis	5	—	1	—	—	—
Apoplexy	—	—	—	1	—	—
Encephalitis	—	—	—	—	1	—
Paralysis	1	—	—	—	2	—
Progressive Musc. Atrophy ...	1	—	—	—	—	—
Neuralgia	1	—	—	—	1	—
Neurasthenia	20	—	6	—	21	—
Insomnia	7	—	1	—	2	—
Tremor Hand	—	—	—	—	—	—
Acute Mania	—	1	1	—	—	—
Melancholia	3	—	—	—	1	—
Delusional Insanity	—	—	1	—	1	—
Suicide	—	1	—	—	—	—
DISEASES OF THE EYE:—						
Conjunctivitis	1	—	—	—	—	—
Iritis	2	—	—	—	—	—
Defective Vision	1	—	—	—	1	—
Trachoma	1	—	—	—	—	—
Cataract	—	—	1	—	—	—
DISEASES OF THE EAR:—						
Otitis Media	1	—	—	—	2	—
Mastoid Abscess	—	—	—	—	—	—
DISEASES OF THE NOSE:—						
Chronic Rhinitis	—	—	—	—	—	—
Coryza	—	—	—	—	1	—

Causes of Invalidings and Deaths—European Officials—Nigeria—*continued.*

Diseases.	1920.		1921.		1922.	
	Invalided.	Died.	Invalided.	Died.	Invalided.	Died.
Circulatory System:—						
Valvular Disease	5	2	1	—	3	—
Arterio-Sclerosis	—	—	2	1	1	—
Aneurism	—	—	—	—	—	—
Endocarditis	—	—	—	—	—	—
Dilatation of Heart	3	—	—	—	1	—
Irregular Heart	—	—	—	—	—	—
Cardiac Failure	—	1	—	—	—	—
Angina	—	—	1	—	—	—
Myocarditis	—	—	1	1	1	—
Respiratory System:—						
Broncho-Pneumonia	—	—	1	—	—	—
Emphysema	—	—	1	—	—	—
Pleurisy	1	—	—	—	1	1
Asthma	—	—	—	—	1	—
Haemoptysis	1	—	—	—	—	—
Gas Tranma	—	—	—	—	—	—
Bronchitis	—	—	—	—	—	—
Empyema	—	—	1	—	—	—
Digestive System:—						
Caries of Teeth	—	—	—	—	—	—
Pyorrhoea	6	—	—	—	3	—
Gastritis	2	—	2	—	4	—
Gastralgia	—	—	1	—	—	—
Gastro-Enteritis	2	—	—	—	—	—
Dilated Stomach	—	—	—	—	2	—
Stricture of Oesophagus ...	—	—	—	—	—	—
Dyspepsia	5	—	—	—	1	—
Gastric Ulcer	—	—	—	1	—	—
Gastric Cancer	1	—	1	—	—	—
Enteritis	2	—	—	—	—	—
Appendicitis	7	—	2	—	1	—
Colitis	5	—	—	—	1	—
Ulceration of Intestine	—	—	—	—	1	—
Intestinal Stasis	—	—	—	—	—	—
Duodenal Ulcer	—	—	2	—	—	—
Alveolar Abscess...	—	—	—	—	—	—
Cirrhosis of Liver...	—	—	—	1	—	—
Hepatitis	3	—	2	—	—	—
Abscess of Liver	—	—	1	—	1	—
Hernia	—	—	—	—	1	—
Jaundice	—	—	1	—	—	—
Biliary Colic	1	—	—	—	—	—
Cholecystitis	—	—	2	—	—	—
Diarrhoea	—	—	—	—	—	—
Haemorrhoids	3	—	—	—	—	—
Perineal Abscess	—	—	—	—	—	—
Fistula in Ano	1	—	—	—	—	—
Lymphatic System:—						
Adenitis	—	—	1	—	—	—
Sup Lymph Glands	—	—	—	—	1	—
Urinary System:—						
Nephritis	1	2	—	—	—	—
Renal Colic	—	—	1	—	—	—
Renal Calculus	—	—	2	—	—	—
Bright's Disease	—	—	—	—	1	—
Diverticulum Bladder	—	—	—	—	1	—
Generative System:—						
M. Urethral Fistula	—	—	—	—	—	—
F. Salpingitis	1	—	—	—	—	—
Syphilis	—	—	—	—	1	—

Causes of Invaliding and Deaths—European Officials → Nigeria—*continued.*

Diseases.	1920.		1921.		1922.	
	Invalided.	Died.	Invalided.	Died.	Invalided.	Died.
Brought forward ...	—	—	—	—	—	—
Locomotion:—						
Arthritis	—	—	—	—	2	—
Osteo-Periostitis	1	—	—	—	—	—
Musc. Rheumatism	—	—	—	—	—	—
Necrosis	—	—	—	—	1	—
Lat Curv. Spine	—	—	—	—	1	—
Connective Tissue:—						
Cellulitis	1	—	1	—	—	—
Skin:—						
Chronic Ulcer	—	—	2	—	—	—
Rodent Ulcer	1	—	—	—	—	—
Boils	—	—	1	—	1	—
Carbuncle	—	—	—	—	—	—
Dermatitis	—	—	—	—	—	—
Veldt Sores	—	—	—	—	—	—
Injuries:—						
General Injury	—	2	—	—	—	—
Local Injury	1	—	2	—	2	—
Gun Shot Wounds	—	4	—	—	—	1
Bite by Rabid dog	—	—	2	—	1	—
Tumours:—						
Carcinoma Duodenum	—	—	—	—	—	1
Intoxications:—						
Alcoholism	1	—	2	1	3	—
Sun Trauma	1	—	5	2	1	1
Parasites:—						
Coccidal	—	—	—	—	1	—
Filariasis	1	—	—	—	1	—
Other Causes:—						
Shell Shock	1	—	—	—	—	—
Renewal of Artificial Limb ...	—	—	—	—	—	—
Unknown	—	—	—	—	—	—
Poisons:—						
Chloroform	—	—	—	—	—	1
Total	154	23	89	11	137	7

Table Showing Sick, Invaliding and Death Rates, Native Officials—Nigeria.

	1920.	1921.	1922.
Total number resident	2,350	2,531	2,928
Average number resident	2,013	2,451	2,706
Total number on sick list	2,728	3,808	3,661
Total number of days on sick list	19,293	27,378	26,153
Average daily sick	52·7	75·008	71·65
Percentage of sick to average number resident	·21	3·06	2·64
Average number of days to each patient	7·07	7·18	7·14
Average sick time to each resident	9·58	11·1	9·6
Total number invalided	29	25	24
Percentage of invalided to number resident	1·23	·98	·82
Percentage of invalided to average number resident	1·43	1·01	·88
Total deaths	16	19	26
Percentage of deaths to number resident...	·607	·79	·88
Percentage of deaths to average number resident ...	·709	·77	·96

CAUSES OF INVALIDINGS AND DEATHS—NATIVE OFFICIALS—NIGERIA.

Diseases.	1920.		1921.		1922.	
	Invalided.	Died.	Invalided.	Died.	Invalided.	Died.
Infective Diseases:—						
Dysentery (Amœbic)	...	...	1	...	...	1
Malaria	...	2	...	...	...	5
Pneumonia	...	3	1	6	...	3
Pyæmia	...	1	...	...	...	...
Septicæmia	...	...	...	1	...	1
Tuberculosis	7	3	2	1	2	4
Rheumatism	...	...	..	...	2	...
Syphilis	...	...	...	...	1	1
General Diseases:						
Leukæmia	...	...	1	...	..	...
Anæmia	1	...	...	...	...	...
Diabetes	...	..	...	...	...	...
Debility	...	...	1	...	2	...
Senility	...	...	...	...	3	...
Other Diseases	...	...	...	...	...	2
Nervous System:—						
Myelitis	...	...	...	1	...	...
Paraplegia	...	...	...	1	...	...
Hemiplegia	1	...	2	...	1	...
Neurasthenia	2	...	...	...	2	...
Melancholia	...	...	...	...	2	...
Dementia	...	...	...	...	...	...
Apoplexy	...	...	...	...	...	1
Delusional insanity	...	...	...	...	1	...
Eye, Diseases of:—						
Conjunctivitis	...	...	...	...	1	...
Keratitis	...	...	...	...	...	...
Optic Atrophy	...	...	1	...	...	...
Irido-Cyclitis	...	...	1	...	...	...
Defective Vision	3	...	...	...	...	...
Cataract	...	...	...	...	4	...
Ear, Diseases of:—						
Otitis Media	...	...	...	...	...	...
Circulatory System:—						
Valvular disease	8	3	6	4	1	2
Arterio-Sclerosis	...	1	1	...	...	...
Aneurism	...	...	...	...	...	...
Cardiac Dilatation	...	...	1	...	...	...
Myocarditis	...	...	1	...	...	...
Respiratory System:—						
Emphysema	1	...	...	...	...	...
Digestive System:—						
Hepatitis	...	...	...	...	...	1
Hepatic Abscess	...	...	...	...	...	...
Malignant D. Liver	...	...	1	...	...	...
Other Diseases	...	...	...	...	...	1

Causes of Invalidings and Deaths—Native Officials—Nigeria—*continued.*

Diseases.	1920.		1921.		1922.	
	Invalided.	Died.	Invalided.	Died.	Invalided.	Died.
Urinary System:—						
Bright's disease	...	...	...	...	1	...
Acute Nephritis	...	2	...	1	...	3
Chronic Nephritis	...	...	1	1	...	...
Cystitis	...	1	...	...	1	...
Generative System:—						
Stricture Urethra	...	...	...	...	...	1
Urethral Fistulæ	1	...	...	...	...	...
Syphilis	...	...	1	...	...	...
Locomotion:—						
Rheumatoid Arthritis	...	...	1	...	...	...
Injuries:—						
General	1	...	...	...	...	...
Local—Fracture Skull	...	...	...	...	...	...
Tumours:—						
Cancer Tongue	...	...	1	...	...	...
Cancer Uteri	...	...	1	...	...	...
Parasites:—						
Filariasis	1	...	...	...	...	...
Total	26	16	25	19	24	26

Soldiers—Nigeria Regiments—W.A.F.F.

	1920.	1921.	1922.
Average Strength	4,619	3,885·35	3,461
Sick Rate per 1,000	864·03	142·47	51·5
Death Rate per 1,000	18·3	9	4·91

Police Force.

	1920.	1921.	1922.
Northern Provinces.			
Average Strength	993	1,088	1,182
Sick Rate per 1,000	534	20·3	43·5
Death Rate per 1,000	11·07	9·1	5·92
Southern Provinces and Colony.			
Average Strength	1,555	1,674	1,646
Sick Rate per 1,000	65·85	31·47	58·76
Death Rate per 1,000	6·4	8·49	8·31

The figures for the Soldiers and Police in the Northern Province are only approximate. Accurate figures will, I trust, be available for the year 1923.

(*a*) PRISON—GOVERNMENT PRISONS.

	1920.	1921.	1922.
NORTHERN PROVINCES:—			
Total No. of Prisoners	2,942	2,508	2,778
Daily Average	956	838	782
Sick Rate per 1,000	16	84	44·2
Death „ „ „	73·32	27·4	24·3
SOUTHERN PROVINCES AND COLONY:—			
Total No. of Prisoners	307,775	33,064	31,360
Daily Average	6,674	5,600	6,242
Sick Rate	9·89	8·94	83·3
Death Rate	103·98	25·35	23·06

(*b*) NATIVE ADMINISTRATION PRISONS.

	1920.	1921.	1922.
Total No. of Prisoners	14,393	9,412	10,003
Daily Average	2883·52	2,825·36	3,310·95
Total Deaths	178	141	203
Death Rate	61·73	50·96	60·10

The health of Prisoners under detention in Government Gaols throughout the country during the year under review has been good, the sick and death rates showing a continuous decline; the death rate for the Northern Provinces being 24·3 per thousand and in the Southern Provinces and Colony 23·06 per thousand. The percentage in each case being worked out not on the total number of prisoners under detention but on the daily average number resident.

The figures are not so good as regards prisoners detained in Native Administration Gaols, both the sick and death rates here showing a rise as compared with the year 1921. Of the 203 deaths reported, thirty-eight were due to Dysentery, ten to Diarrhoea, thirty-five to Pneumonia and twenty-six to "Fever," while twenty-six are stated to have been due to "Natural Causes" and nine to "Causes Unknown." In the number of deaths reported seven were the result of executions.

The continued improvement in the health of the prisoners detained in Government Prisons is, without doubt, due to better feeding and closest supervision and in this connection it is worthy of noting how greatly the addition of a small amount of groundnuts to the daily ration has improved the health of the prisoners, such deficiency diseases as Epidemic Gaol Dropsy and all those conditions which were classed as the results of ankylostome infection have in the year 1922 been conspicuous by their absence. The present prison diet has proved itself an adequate one and it should be adhered to as closely as possible, especial care being taken to see that the prisoners receive the full amount of the various items comprised in it.

It is not possible to give that amount of supervision and control to the prisons under the Native Administration as is the case with those directly under Government.

The Native Administration Prisons are nearly all in the Northern Provinces and such is the shortage in the Medical Staff that not in all of those towns in which the prisons are situated is it possible to station a Medical Officer.

Furthermore, the control exercised over these prisons is an indirect one and the personal interference by a Medical Officer in petty details of Administration—which means so much in the safeguarding of health—is not practicable. In this matter education must be depended upon; a better class of man should be sought for as a prison warder, and if possible a closer and more detailed supervision should be given by the Political Officer of the District; suitable natives should be selected and sent to the Government Hospital of the District to be trained as Nurses for the prison service and in the larger prisons educated natives who have passed the qualifying examination under the Chemist and Drugs Ordinance should be appointed as Dispensers.

NON-OFFICIAL EUROPEAN POPULATION.

The following Statistics have been collected from Government Medical Officers. Returns from private practitioners are not available so that the figures must be regarded as incomplete and the conclusions drawn from them, to this extent, unreliable.

TABLE SHOWING SICK, INVALIDING AND DEATH RATES.

	1920.	1921.
Estimated Population	2,908	1,781
Total on Sick List	2,462	733
Total No. of days on Sick List	15,161	5,967
Total Invalided	91	51
Percentage of Invalidings to Residents	3·12	2·85
Total Deaths	23	23
Percentage of Deaths to Residents	·79	1·23

TABLE.

CAUSES OF INVALIDINGS AND DEATHS—EUROPEAN . NON-OFFICIAL—NIGERIA.

Diseases.	1920.		1921.		1922.	
	Invalided.	Died.	Invalided.	Died.	Invalided.	Died.
INFECTIVE DISEASES:—						
Dengue	...	...	1	...	...	...
Dysentery—Amoebic	10	1	2	1	2	1
Bacillary	...	...	...	...	1	...
Enteric	1	...	...	...	...	...
Paratyphoid	...	...	1	...	...	...
Malaria	30	1	6	1	8	4
Blackwater Fever	3	5	5	7	2	2
Yellow Fever	...	...	...	...	...	1
Pneumonia...	1	1	1	3	...	4
Syphilis	...	...	1	1	2	...
Trypanosomiasis	...	...	3	...	...	...
Tuberculosis	3	1	...	...	3	2
Whooping Cough	...	...	...	...	...	...
Erysipelas	...	...	...	...	...	1
INTOXICATIONS:—						
Alcoholism	...	...	...	...	...	...
Drug Habit	...	...	1	...	...	...
GENERAL DISEASES:—						
Diabetes	...	...	...	...	...	1
Anaemia	5	...	1	...	3	...
Debility	...	...	1	...	...	...
NERVOUS SYSTEM:—						
Melancholia	...	...	...	...	...	1
Meningitis	...	...	...	...	...	1
Neuritis	1	...	2	...	...	...
Cerebral Abscess	...	1	...	...	...	...
Cerebral Haemorrhage	...	1	...	...	1	1
Neurasthenia	10	...	8	...	3	...
Other diseases	...	...	...	...	2	...
DISEASES OF EAR:—						
Otitis media	...	...	...	...	1	...
CIRCULATORY SYSTEM:—						
Myocarditis	...	...	1	1	...	...
Cardiac Valvular...	5	...	1	2	2	1
Arterio-Sclerosis	...	...	...	1	...	...
Aneurism	...	...	...	...	...	...
Angina	...	1	...	...	...	...
Pulmonary Embolism	...	1	...	...	...	...
RESPIRATORY SYSTEM:—						
Bronchitis	...	...	...	1	...	...
Empyema	...	...	1	...	...	...
Haemoptysis	...	...	1	...	...	...
Pleurisy	...	...	...	...	1	...
Congestion Lungs	...	...	...	...	...	1
DIGESTIVE SYSTEM:—						
Gastritis	3	...	4	...	3	...
Gallstones	...	...	...	...	...	...
Cholangitis	...	...	...	...	...	...
Cholecystitis	1	...	...	...	...	...
Hepatitis	...	...	3	...	2	...
Cirrhosis of Liver	...	...	...	1	...	...
Abscess of Liver	...	1	...	...	...	...
Appendicitis	...	1	1	...	3	2
Colitis	1	...	...	...	...	...

Causes of Invalidings and Deaths—European Non-Official—Nigeria—*continued.*

Diseases.	1920.		1921.		1922.	
	Invalided.	Died.	Invalided.	Died.	Invalided.	Died.
Digestive System Contd:—						
Hernia	1	...	...	...	...	...
Diarrhoea	...	1	...	...	...	...
Fistula (Anal)	1	...	...	...	...	...
Duodenal Ulcer	...	...	...	...	...	1
Intestinal Inflammation	...	...	...	...	...	1
Urinary System:—						
Nephritis	...	1	...	...	...	...
Haemoglobinuria	...	...	1	...	...	...
Generative System:—						
Salpingitis	...	...	1	...	...	...
Pregnancy	...	...	...	...	...	1
Premature Birth	...	...	...	...	...	1
Locomotion:—						
Arthritis	3	...	...	...	...	...
Osteo-Periostitis	1	...	...	...	...	...
Connective Tissue:—						
Abscess	...	...	1	...	...	...
Septic Fingers	...	...	1	...	...	...
Skin:—						
Boils	...	...	...	...	1	...
Carbuncle	...	1	...	...	...	1
Eczema	...	...	1	...	...	...
Injuries:—						
Drowning	...	...	...	1	...	...
Old Shrapnell Wound	...	...	...	...	...	...
General Injury	...	...	...	1	...	1
Local	...	...	...	...	1	...
Tumours:—						
Benign	...	...	...	...	...	...
Poisons:—						
Snake Bite	...	1	...	...	...	...
Other Causes:—						
Sunstroke	...	...	...	1	...	1
Suicide	...	1	...	...	...	...
Violent Fright	...	...	...	1	...	...
Unknown	...	...	...	...	...	1
Total	82	19	50	23	41	31

NON-OFFICIAL NATIVE POPULATION.

Population.	1920.	1921.	1922.
Northern Provinces	9,005,019	10,353,347	10,525,902
Southern Provinces	7,956,986	8,260,000	8,396,000
Total	16,962,005	18,613,347	18,921,902

VITAL STATISTICS—Township—Lagos and Ebute Metta.

	1920.	1921.	1922.
Estimated Population	84,694	98,625	102,260
Total Births	2,845	3,002	3,263
Birth Rate per 1,000	33·5	30·43	36·41
Total Deaths	2,443	2,472	2,628
Death Rate per 1,000	28·8	25·06	24·73
Deaths—Infants under 1 year...	869	855	948
Infantile Mortality per 1,000 ...	284·8	284·8	290·5
Still Births	116	168	163

While the above figures show a very high infant mortality they cannot be regarded as accurate.

All deaths are registered, otherwise it would not be possible to bury. The same does not hold good as far as the births are concerned. This high infant mortality was brought to the notice of the Lagos Town Council, and a Health Week was instituted, when lectures were given which were well attended and prizes were given for the healthiest baby.

Meteorological Records.

Station.	1920.						1921.						1922.					
	Absolute Shade Max.	Absolute Shade Min.	Average Maximum.	Average Minimum.	Relative Humidity.	Rainfall inches.	Absolute Shade Max.	Absolute Shade Min.	Average Maximum.	Average Minimum.	Relative Humidity.	Rainfall Inches.	Absolute Shade Max.	Absolute Shade Min.	Average Maximum.	Average Minimum.	Relative Humidity.	Rainfall inches.
Ilorin	103	50	88·68	69·38	80·24%	49·42	102	52	89·9	68·7	83·1%	66·25	100°	51°	88·8°	67·1°	74·2%	43·90
Kaduna	100	49	86·83	64·42	68·84%	54·83	102	54	88·	65·3	70·2%	56·18	96	51°	85·6°	67·8°	66·3%	51·28
Maiduguri ...	115	47	95·91	66·87	52·92%	31·27	115	49	96·4	67·9	53·6%	28·87	115°	50°	98·9°	68·6°	49·5%	17·73
Naraguta ...	95	44	80·37	61·59	56·49%	51·87	95	46	78·6	62·2	61·6%	51·22	98°	52°	81·7°	62·1°	65·9%	43·77
Kano	104	44	87·63	63·52	56·75%	43·11	107	50	94·	66·9	52·7%	36·62	109°	50°	93·4°	66·9°	50·3%	33·34
Lokoja	102	51	90·31	71·71	75·85%	55·09	102	56	91·2	72·2	75%	50·96	102	53°	90·2°	71·9°	74·6%	47·10
Sokoto	109	50	94·03	67·20	50·32%	29·68	109	50	91·5	67·5	50·2%	33·98	112°	54°	96·5°	69·7°	53·1%	35·41
Yola	108	45	69·41	60·80	58·64%	28·63	108	45	93·5	61·4	58·6%	40·36	107°	49°	93·1°	61·5°	60·8%	39·21
Zaria	101	38	87·65	59·20	58·77%	43·14	101	38	87·6	59·2	58·7%	41·91	99°	40°	85·9°	56·9°	56·8%	54·26
Zungeru	106	56	91·95	69·48	64·25%	48·96	106	56	92·5	74·5	65%	57·14	104°	53°	93·7°	65·9°	65·4%	40·43
Lagos	99·5	68	85·8	75	79·3%	53·10	99	60	86·1	75·2	84·4%	83·22	92·3°	67°	86·1°	75·1°	82·2%	84·37
Onitsha	106	60	91·1	74·5	87·2%	66·89	101	61	91·0	73·5	90·2%	75·49	101°	63°	92·3°	75·1°	86%	22·25
Forcados ...	94	62	22·7	71·4	87·7%	133·78	90	62	87·1	71·3	81·7%	147·75	93°	60°	84·2°	74·3°	82·6%	136·51
Ibadan	103	62	90·2	70·7	89·6%	48·73	103	58	90·8	71·3	89·4%	67·89	103°	52°	92·5°	67·3°	83·8%	44·86
Calabar	100	60	84·8	71·0	81·6%	105·69	90	70	83·5	72·8	84%	100·18	96°	65°	81·0°	73·2°	83·3%	91·14
Enugu	98	54	86·7	67·5	79·6%	86·89	97	55	86·3	62·3	82·2%	74·63	93°	58°	81·5°	60·7°	86·9%	36·30

IV.—HOSPITALS AND DISPENSARIES.

Station.	Nature of building.	Mosquito proofing.	No. of Beds.		Remarks.
			M.	F.	
Lagos—E. Hospital ...	Brick and Wood	Completely	13	1	Prison has its own E. and N. Hospitals.
Native Hospital ...	Wood and Iron...	Partially ...	53	14	
I. D. Hospital—European	Brick	Completely	6	4	
„ „ Native ...	„	„	25	13	
Massey St. Dispensary ...	„	None ...	...	...	
Ereko „ ...	„	„ ...	...	...	
Ebute-Metta „ E.	„	„ ...	...	...	
„ „ N.	„	„ ...	...	...	
E. Prison Hos. and Disp.	„	„ ...	...	...	
N. „ „	„	„ ...	...	...	
Yaba—L. Asylum N. ...	„	„ ...	24	24	
Leper „ N. ...	Mud and Thatch	„ ...	21	12	
Ibadan—E. Hos. and Disp.	Wood on Iron Pillars	Completely	5	...	
Native „ ..	Brick	„	16	4	
Abeokuta—E. Hospital ...	None	...	...	...	
Native „ ...	Mud, Iron Roof...	None	8	4	
Warri—E. Hospital ...	Concrete ...	Completely	6	...	
Native „ ...	Brick	Partially ...	24	6	
I. D. Hospital ...	„	„ ...	20	...	
Sapele—E. Hospital ...	„	Completely	4	...	
Native „ ...	„	Partially ...	16	2	
I. D. Hospital ...	„	„ ...	8	...	
Onitsha—E. Hospital ...	Brick and Wood	Completely	3	1	
Native „ ...	Concrete & Wood	„	19	5	
Forcados—E. Hospital ...	Concrete ...	„	4	...	
Native „ ...	Brick	„	12	4	
Agbor—E. Hospital ...	None	...	...	...	
Native „ ...	Brick	None ...	6	...	
Benin City—E. Hospital...	None	...	...	...	
Native „ ...	Brick	Partially ...	8	...	
Enugu—E. Hospital ...	„	None ...	6	...	Railway Construction Hospital.
Native „ ...	„	„ ...	8	...	Station Hospital.
„ „ ...	Mud and Pan and Grass roof	„ ...	22	...	Construction Hospital, Railway.
Calabar—E. Hospital ...	Wood	Completely	6	2	Lunatic Asylum—Brick and Iron roof—30 beds—15 Male, 15 Female. Prison has its own E. and N. Hospitals.
Native „ ...	Brick	„	46	11	
I. D. Hospital ...	„	None ...	50	16	
Bonny—N. Hospital ...	Brick	Partially ...	9	4	
I. D. Hospital ...	„	None ...	8	4	
Brass—N. Hospital ...	„	„ ...	8	...	
Degema—N. Hospital ...	„	„ ...	28	6	
Ikot-Ekpene—N. Hospital	„	„ ...	16	3	
Opobo—E. Hospital ...	„	Completely	4	...	Closed at present.
Native „ ...	Iron	None ...	6	2	
Owerri—N. Hospital ...	Bush	„ ...	...	...	
P. Harcourt—E. Hospital	Wood and Iron...	Completely	6	...	
Native „ ...	„ „	Partially ...	...	...	
I. D. Hospital ...	Bush	None ...	...	...	
Obubra—N. Hospital ...	Brick	„ ...	8	2	
Ikom „ „ ...	Bush	„ ...	10	...	
Obudu „ „ ...	„	„ ...	10	...	
Okigwi „ „ ...	„	„ ...	10	...	
Ogoja „ „ ...	„	„ ...	10	...	
Abakaliki—N. Hospital ...	„	„ ...	10	...	
Victoria—E. Hospital ...	Brick	„ ...	6	...	
Native „ (16)	„	1 Completely	401	...	15 N. Hospital plantations.
I. D. Hospital ...	Iron	None ...	99	...	
Buea—N. Hospital ...	„	„ ...	10	...	
Bamenda—N. Hospital ...	Bush	„ ...	20	4	
Mamfe „ „ ...	Iron	„ ...	4	...	
Afikpo „ „ ...	Bush	„ ...	8	...	

IV.—HOSPITALS AND DISPENSARIES—*continued.*

Station.	Nature of building.	Mosquito proofing.	No. of Beds.		Remarks.
			M.	F.	
Kaduna—E. Hospital ...	Brick	Completely	12	...	
Native „ ...	„	Partially ...	36	4	
Kano—E. Hospital ...	Concrete ...	None ...	5	...	
Native „ ...	Brick	Partially ...	26	2	
I. D. Hospital ...	Mud and Thatch	None ...	19	...	
Lokoja—E. Hospital ...	Wood	Partially ...	10	...	
Native „ ...	Brick	„ ...	48	4	
Sokoto—N. Hospital ...	Mud and Thatch	None ...	12	...	
Ilorin „ „ ...	Iron	„ ...	6	...	
Offa „ „ ...	Bush	Partially ...	6	..	
Ibi „ „ ...	Brick	„ ...	6	...	
Yola „ „ ...	Stone	None ...	10	...	
Bauchi „ „ ...	Brick	„ ...	6	...	
Zaria—N. Hospital ...	Brick and Mud...	Partially ...	16	...	
I. D. Hospital ...	Thatch	None ...	12	...	
Naraguta—N. Hospital ...	Grass	„ ...	20	...	
Keffi „ „ ...	Mud and Thatch	„ ...	10	...	
Zungeru „ „ ...	Brick	„ ...	10	...	
Minna „ „ ..	Mud and Thatch	„ ..	14	...	
Ankpa „ „ ...	„ „	„ ...	12	...	
Maiduguri „ „ ...	Brick	„ ...	12	...	

SURGICAL OPERATIONS.

	1920.	1921.	1922.
Total Number	2,652	3,949	2,503
Number Cured	2,314	3,540	2,007
Relieved	249	312	410
Not Relieved	26	32	51
Number of Deaths	63	65	35

SCIENTIFIC.

1. "A case of Ainhum in the hand"—by E. J. J. Quirk, M.R.C.S., L.R.C.P., etc.

2. "Spinal Anaesthesia"—by W. R. Parkinson, F.R.C.S., etc.

3. "Bone Grafting for Tuberculosis Spinal Caries"—by Quintin Stewart, F.R.C.S. (Edin.), etc.

4. "A case of Acute Hiccough due to Cestode infection"—by T. M. R. Leonard, L.R.C.S., L.R.C.P. (Edin.), etc.

5. "A case of Acute Hepatic Abscess—Amoebic, cured by Emetine without operative aid"—by T. M. R. Leonard, L.R.C.S., L.R.C.P. (Edin.), etc.

6. "Orbital Tumor—Removal of"—by T. M. R. Leonard, L.R.C.S., L.R.C.P. (Edin.), etc.

7. "Cases treated by Diathermy"—by H. H. Stewart, M.B., B.CH., etc.

8. "Excision of Scapula"—by E. E. Maples, M.D., B.S. (Lond.), F.R.C.S.

9. "Fæcal Fistula"—by E. E. Maples, M.D., B.S. (Lond.), F.R.C.S.

10. "Treatment of Leprosy"—by E. E. Maples, M.D., B.S. (Lond.), F.R.C.S.

11. "Two cases of Scarlatina"—by L. W. Davies, M.D., CH.B. (Edin.)

12. "Bilharziosis—Cases of"—by L. W. Davies, M.D., CH.B., (Edin.)

13. "Three cases of Contracted Pelvis"—by H. R. M. Ferguson, M.D., CH.B., etc.

14. "Report on Herpes amongst Europeans"—by G. Wilson, M.B., CH.B., (Glas.), etc.

15. "Nerve disease"—by G. Wilson, M.B., CH.B. (Glas.)

A CASE OF AINHUM IN THE HAND.

By Dr. E. J. J. Quirk, M.R.C.S., L.R.C.P., etc.

The disease known as Ainhum has hitherto been described as affecting the toes only; a case in which the disease occurred in the finger is therefore of interest. Dr. Connal, Director of the Medical Research Institute at Yaba, who has kindly examined all the available literature on the subject, informs me that there are no records of Ainhum other than in the toes. Castellani mentions that "there are reports of the affection occurring in the fingers" but gives no details. The following are the particulars of the case observed.

The patient, a male of about 25 years of age, a native of Tali, in the Mamfe (Ossidinge) Division, Cameroons Province, had suffered from swelling and lack of power in the little finger for about two years; when examined, the appearance of the finger resembled exactly

that of the toe in Ainhum, being swollen and shapeless and connected with the hand only by a thin strip of fibrous tissue at the level of the metacarpophalangeal fold: this was divided easily with a scalpel, and the wound healed in a few days.

The patient, a farmer, was otherwise healthy and gave no history of injury or previous disease.

SPINAL ANÆSTHESIA.

By Dr. W. R. Parkinson, f.r.c.s. (Eng.), etc.

Having now used spinal anæsthesia for some years and having given it in nearly 500 cases is my justification for giving my experiences in case they may be of value to other Medical Officers who have not had an opportunity of using it. To a man who is working by himself or without competent assistance it should be invaluable. Working here with most of the conveniences I find that I use it more every year.

It can be used in any operation below the costal margin without risk. There is some question whether it increases shock by lowering blood pressure. I recently took the blood pressure of two young adults suffering from hernia; before the anæsthetic they were both 140 m.m. Hg. One was 100 and the other 120 immediately the anæsthetic was given (.05 grm. of Stovain and Saline in each case) and these pressures remained the same during the operation and at its conclusion.

For all gento-urinary and rectal operations it is an ideal anæsthetic owing to the perfect relaxation and the elimination of all risk of the patient coming round or of being too deeply under. Dosage can be varied to suit the length of each operation.

I give a preliminary dose of scopolamine and morphine to prevent mental shock and avoid the need of a local anæsthetic. The patient is on his left side on the table with the back well flexed ventrally. The table should be high and the right hip and right shoulder should be vertically above left hip and shoulder. This makes it easy to run the needle in horizontally and rely upon drawing fluid at once. The best syringe is Barker's and it is useful to have a sharp, large needle with a head for a handle to make the puncture. The blunter needle then follows this very easily.

The puncture should be made immediately below the spine of the second lumbar vertebra and need not be sloped towards the head if the back is well placed.

If there is any difficulty in reaching the spinal canal go to the interspace above. Sometimes the interspinous ligaments are so tough that it is easier to lateralise the needle a little but then more care is required in getting through to the theca: the needle is inclined to strike the lamina on one or other side. It is in these cases, when the ligaments are tough, that the sharp needle is valuable.

I have used a good deal of Barker's solution but very much prefer a locally prepared mixture of one grm. of Stovain powder in 10 c.c. of normal saline, sterilized in an autoclave or any sterilizer. The dose varies from 1 c.c. to ·2 c.c.: ·5 c.c. contains ·05 grm. Stovain, and is the usual dose in a vaporole.

The local preparation allows latitude in dosage and is very economical. There has not been a single instance of any trouble due to the use of this preparation. The dosage need very seldom be above ·5 c.c. and the greater the dosage the more headache there is. I use a dose of ·3 or even ·2 c.c. for sounds and the relaxation is excellent and no headache or other disturbance follows. The preliminary scopolamine can be omitted very frequently when the patient is a type not likely to be disturbed by the needle. A simple hernia does not require more than ·4 c.c. Hysterectomy or any abdominal operation lasting about $\frac{3}{4}$ hour needs ·5 c.c.

With large doses headache is frequently troublesome. I have tried removing a large quantity of spinal fluid before injection and also of removing 5 and 10 c.c. after operation without any effect.

The anæsthetic lasts longer in larger doses but does not necessarily cover a greater area.

The shoulders should be kept up in all cases unless the relaxation of abdominal muscles is not well marked, then they can be lowered and the abdomen watched and felt for relaxation of muscles. It is quite unnecessary to use a sharp needle to find the level of anæsthesia.

BONE GRAFTING FOR TUBERCULOSIS SPINAL CARIES.

By Dr. Quintin Stewart, f.r.c.s. (Edin.).

While there is nothing original about this operation, which followed the lines laid down by Sir Henry Gray in the British Medical Journal of July 15th, 1922, I publish it with a view to inviting criticism from the point of view of its use in West Africa where tuberculous disease of bone appears to be more prevalent than is generally supposed and where operative measures have probably as yet not been given a trial to any extent.

Adeyanju, aged 26, a slightly built, undernourished Yoruba convict, doing a term of fifteen years for murder, came under my care in the Colonial Hospital on September 1st, 1922, suffering from tuberculous caries of the spine; he complained of pain in his back radiating round his chest from that area of the spine in which a marked kyphosis was present; the kyphosis was rapidly increasing and he was becoming very weak and only able to move about slowly and with difficulty.

A radiograph taken by Dr. H. H. Stewart showed a typical caries involving the body of the tenth dorsal vertebra; anteriorly, the body had almost disappeared and a large oval abscess was evident extending from the eighth to the twelth dorsal vertebra.

Preliminary treatment to get the patient into the best possible condition was carried out for four weeks previous to operation. This consisted in confining him to bed in a prone position in an endeavour to reduce the deformity somewhat, in feeding him on a nutritious diet, and in employing arsenic and iron, anti-malarial and anti-helminthic drugs. A removable plaster jacket was prepared, the initial attempt meeting an untimely end by fire and water while drying in the cook-house: profiting by experience, one sun-dried the next.

Preliminary to operation no purgation was carried out, and food was not withheld; one hour before going to the theatre morphia grain $\frac{1}{4}$, hyoscine grain $\frac{1}{100}$, dissolved in magnesium sulphate solution was given, and a quarter of an hour previous to operation one-eighth grain morphia in similar solution.

A combination of spinal anaesthesia one c.c. of Stovaine Solution (Stovaine one grm., Sod. Chlor. one grm., Aq. distilled ten c.c.) with local infiltration (0·5% Novocaine and Adrenalin) of the spinal operation area was employed: this was very successful, no general anaesthetic being required; the only drawback was that the fall in blood pressure resulting from the spinal stovaine plus the unavoidable loss of blood in preparing the graft bed gave rise to some anxiety towards the end of a two-and-a-half hours operation,—two-and-a-half hours, because one was working in an unaccustomed environment with more or less unsuitable tools.

The muscles and fascia were cleared from the spinous processes and laminae for a distance of six inches on either side of the centre point of the lesion and the periosteum reflected, the bare bone being roughened as far as possible and bleeding controlled by hot saline packs. This preparation of the graft bed was found to be the most difficult part of the operation and I should imagine specially devised retractors would be of considerable help; luckily the abscess was not encountered.

The tibial grafts ten inches in length were now cut without turning the patient, by flexing the leg on the thigh: three lines of holes were drilled with an electric drill at half inch intervals on the subcutaneous surface of the bone and these holes were joined up by means of an Osteotome; the bone dust was collected and the grafts placed in warm saline.

The saline packs having been removed, the grafts were placed in their beds one on either side in the angle between the spines and laminae, the bone dust smeared at points where the graft came into contact with the spine, and the wound closed by uniting the muscles and skin with catgut over the grafts. After the plaster case was applied the patient was placed in a heated bed and given pituitrin and saline by the rectum and later tea, etc., by the mouth, following which he soon rallied from his long ordeal.

The temperature which had been averaging a degree above normal before operation rose to 101·4 for two days and a copious yellow discharge appeared from the urethra—the lighting up of a latent gonorrhoea; the temperature gradually fell and, when the stitches were removed from the leg on the 14th day, had become normal.

Convalescence was uneventful, slight pains and temperature occurring at intervals.

In six weeks the wound in the back was examined and found to have healed like the leg, by first intention, the catgut skin stitches being all absorbed.

Three months after operation a radiograph showed the grafts to be apparently healthy while the abscess gave indication of absorption; following this the plaster splint was removed for an increasing time every day during which time the patient was placed in the sun with his back exposed freely—the question of the success of sun treatment, as practised by Rollier at Leysin on white races is of considerable interest with regard to its effect on coloured people.

At the present time, five and a half months after operation, the patient's general health is good and he appears well and cheerful, the plaster jacket has been discarded and he is permitted considerable movement and even careful walking over short distances; the temperature remains normal and a radiograph taken a few days ago shows new bone formation to be taking place in the vicinity of the grafts, the abscess shadow shows little change and absorption will probably be very slow.

It is of course much too soon yet to give any prognosis in the case but under the circumstances of his long sentence he will be available for observation in the future. It seems to me that purely conservative treatment of the uneducated native with the present pressure on hospital accommodation does not hold out much chance of success in such a case.

A CASE OF ACUTE HICCOUGH DUE TO CESTODE INFECTION.

By Dr. T. M. R. Leonard, l.r.c.s., l.r.c.p. (Edinburgh), etc.

Name—S.	Date of admission—23/9/22.
Sex—Male, Age 25	Date of Discharge— 2/10/22.
Nationality—Fulani	Diagnosis—Acute Hiccough.
Occupation—Butcher ...	Result—Cured.

History.—The patient, a Fulani, and a Butcher by trade, was brought to the Native Hospital on the morning of the 23rd September in a very collapsed condition. Temperature ninety-seven, Pulse sixty. His general appearance was that of a very sick man, eyes sunk into his head, cheeks shrunken, cold perspiration and a very distressing

hiccough. Patient had been in this condition for the past six days, unable to take any food as vomiting occurred and obtaining very little sleep owing to the constant and very violent hiccough. No motions had been passed for the last four days. Urine was also scanty and very high coloured. Patient was admitted into hospital and a very careful examination of his chest and abdomen revealed no reason for the diaphragmetic irritation. *Blood examination* was negative. No malarial parasites being present, but there was a decided increase in the Eosinophiles. Examination of the faeces obtained after turpentine enemata showed the presence of the ova of Ascaridae, T. Dispar, Ankylostoma and a few ova of T. Saginata. The vomiting was stopped by sinopisms to the epigastrum and injection of Morphia grain one-fourth controlled the hiccough, while food was given in small quantities. On the second day violent vomiting occurred after the patient had been given a dose of Felix Mas, and to my surprise, an adult tape worm—complete—twenty-six inches long, was brought up. The hiccough, which hitherto was continuous except when controlled by the Morphia, stopped, and the patient had no more vomiting. Another dose of Felix Mas was given that night followed by Ol: Ricini in the morning with the result that two more worms were passed. The patient rapidly recovered and was discharged on the 2nd October, 1922.

The case is of interest from the fact of the unusual position of the tape worm and its presence in the stomach causing the acute hiccough. By a curious coincidence at the time of writing the above, a second case of an exactly similar nature was admitted and an adult T. Saginata vomited with immediate cessation of the hiccough which in this case had continued for four days. Patient was a Hausa.

A CASE OF ACUTE HEPATIC ABSCESS—AMOEBIC: CURED BY EMETINE WITHOUT OPERATIVE AID.

By Dr. T. M. R. Leonard, l.r.c.s., l.r.c.p. (edin.), etc.

Name—B. S. C.	Date of admission—18/9/22.
Sex—Male: Age—36 years ...	Date of discharge—21/10/22.
Nationality—Sierra Leonean ...	Diagnosis—Hepatic Abscess—Amoebic.
Occupation—Piano Repairer ...	Result—Cured.

History.—Patient was brought to hospital at 5.30 p.m. on the 18th of September, 1922. His general condition was serious. Temperature 102·4. Pulse 102. Respirations 36. He was emaciated and very weak and had been ill for the past three weeks. His illness began with pain, dull and aching in character in the right side on the liver, pyrexia was noticed at nights, bowels were inclined to be constipated and he used to take salts to have a motion. He noticed that his motions were clay coloured and his urine was scanty and high coloured. His condition gradually grew worse, fever was more or less constant but high at night, night sweats were present and the pain increased and he couldn't lie on his side—a dorsal position was the only one that gave him comfort.

Examination.—Patient was very thin and emaciated, sclerae jaundiced, tongue very foul and thickly coated. There was a decided bulging of the liver below the costal margin for about four inches and palpation gave the impression of a bag of fluid. Liver dullness extended up to the nipple. The right lobe of the liver was also enlarged and palpable. Spleen appeared normal. Lungs were normal as well as the heart.

Blood Examination.—Malarial parasites present. A decided Leucocytosis also present.

Urine Examination.—Spr. Gr. 1,022. Acid, high coloured. Slight albumin present.

Faeces Examination.—Ova Ascaridae. Amoebic Cysts present Patient gave history of an attack of dysentery a year ago followed by a second attack seven months ago for which he had been treated and apparently recovered. Operative measures were refused by the patient although exploratory puncture showed hepatic pus.

The patient was placed on Injection Emetine grain one morning and evening, with a light diet and some stimulant—the intercurrent Malaria soon yielded to the intramuscular injection of Quinine gr. 6 given him for the first three days. Injection Emetine gr. 1 was given morning and evening. The temperature gradually came down, night sweats and pain diminished and the liver enlargement decreased very rapidly and on the 25th temperature was normal, pains had gone and the patient felt and looked considerably better. A mixture of Ammon: Chlor: and Nux: Vom: and Gentian was given him t.d.s. with Quinine grs. 5 by the mouth. On the 30th, patient was on full diet and Tab: Alcresta two after each meal begun, and the Emetine stopped. On the 31st instant made a complete recovery and was discharged on the 21st October, 1922.

The total amount of Emetine used was twenty-eight grains.

ORBITAL TUMOUR—REMOVAL OF.

By Dr. T. M. R. Leonard, l.r.c.s., l.r.c.p. (edin.), etc.

Patient, a male, aged about twenty-eight years, was seen at out-patients on 18th September, 1922. A solid tumour of the size of a large orange occupied the right orbit, both upper and lower lids being involved in the growth, outer surface ulcerated. The tumour was firmly adherent. Considerable pain and headache (right side) was complained of. General condition was poor, very anaemic and emaciated. Patient desired operation. Admitted on the 18th September and placed on an Iron and Arsenic tonic with a generous diet to improve his general condition. Operation was performed on the 4th of October and the tumour excised, together with portions of the nasal bone (right side), and orbital margins of the frontal bone to which the tumour was adherent. No adhesions were found within the orbit itself. The wound was allowed to heal by granulation, which filled up the orbital cavity.

Skin Grafting was then performed with good results, and the patient was discharged on the 2nd December, 1922, completely cured.

The tumour was sent to Dr. Young—Yaba Research Institute, who made the diagnosis—Glioma with Sarcomatous tendencies.

CASES TREATED BY DIATHERMY,

By Dr. H. H. Stewart, m.b., b.ch., etc.

The following cases are selected from those treated during 1922 by Diathermy, and I have thought the results of sufficient interest to place on record.

It is noteworthy that the cases were all of a chronic nature and came for treatment only when all other methods tried had failed. The application of the high frequency current for obscure joint and nerve lesions is new as far as this country is concerned, and treatment difficult to obtain by reason of the somewhat elaborate apparatus necessary.

Case 1.

F. W. European Official.

The patient complained of a dull pain in the right upper arm, and located on its inner aspect just above the condyle.

He had pains shooting to the fingers, and was quite unable to lift any heavy weight. This had been his condition for three months, with the addition that latterly the pain had been severe enough to keep him awake at night. General and local treatments such as radiant heat had all been tried without appreciable benefit. A preliminary X-ray examination revealed no abnormality of bone or joint. On the 13th March 1·5 amps. were passed through the elbow joint for twenty minutes.

Two days later he reported that the pain was much less and the tingling in the fingers almost gone. He attended every other day till the 22nd when all movements were quite free, pain absent, and heavy weights could be lifted without any discomfort. On the 7th April he returned, complaining of a slight feeling of discomfort on pressing his upper arm. He had got wet through at work and attributed his condition to having failed to change his clothes. He attended for another week and at the end of that time his arm was in every way normal. He proceeded on leave shortly after. On September 22nd, on return from leave, he reported that he had had no recurrence of his trouble.

Case 2.

O. W. European Official.

In 1917 whilst on active service he received an injury to his back. He was laid up for several weeks. Ever since he had suffered from pains in the sacral region. In wet or damp weather the pains were worse, and sometimes prevented his sleeping at night.

He first attended for treatment on March 3rd and was unable to bend without twinges of pain. There were several points of tenderness over the sacrum. A three inch electrode was applied and 1·5 amps. passed for twenty minutes. This treatment was repeated every other day. At the end of six days his condition had greatly improved and pain and stiffness was much less. On the 24th April he felt so much better that he played tennis, but this effort was followed by neuralgic pains. The treatment continued till the 18th May when he was found to be free from either pain or stiffness. Six months later he reported that he had had no further pain but from time to time had a slight feeling of stiffness in the back.

Case 3.

A. B. European Official.

This patient attended with a contraction of the third, fourth and fifth fingers of the right hand.

In May he injured his hand when pushing a lorry. A few days later the hand become swollen and an incision was made in the palm. He came to Lagos on July 19th for treatment. The hand was then extremely painful if touched and the fingers could not be extended. On the 20th an X-ray examination was made and an extensive arthritis was seen to involve the carpal and metacarpal joints. Diathermy was applied through the palm, though owing to his condition only fractional currents could be used.

A week of treatment resulted in his being able actively to move his fingers as well as bear passive movements. The general pain was much less. By the 31st July he had made great progress and he returned on the 2nd August to his station, the fingers then being capable of movement and almost straight. Pain and tenderness had gone, and he was instructed to continue the active movements and to massage the hand daily.

EXCISION OF SCAPULA.

By Dr. E. E. Maples, M.D., B.S. (Lond.), F.R.C.S.

A case occurred of Chondro Sarcoma of the left scapula in a boy (E. A., Case No. 548/22), five years old. The body of the scapula was excised through the neck, leaving behind the small portion comprising the glenoid fossa and coracoid process. The child made an uninterruptedly perfect recovery, and the early age of the patient upon whom the operation was performed must surely constitute a record.

Jacobson, Vol. 1, 1918 edition of "Operation of Surgery," page 232, says the "scapula has been successfully removed for growth at ages varying between about seventy and about eight."

The photographs which I send with this report shew the almost perfect voluntary movements, both forward and upwards, of the shoulder joint which attain after removal of the scapula.

This is the second occasion in Calabar when I have excised a scapula for malignant disease.

FÆCAL FISTULA.

By Dr. E. E. Maples, M.D., B.S. (Lond.) F.R.C.S.

An interesting case occurred of a fæcal fistula in the right inguinal region communicating with another in the neck of the scrotum in a youth aged twenty-two (E. E., Case No. 328/22). The cause of the fistulæ could not be definitely ascertained but from the history they probably arose in a strangulated hernia which burst externally. The patient was admitted on the 29th April, 1922, literally a living skeleton, owing to loss of nourishment through the fistula, which evidently arose in the small intestine. He was at first kept in bed at rest for a few days and well fed, to see if his general condition would improve, but as no progress was made (if anything, he was becoming worse), it was decided to operate on him without further delay. The abdomen was opened on 4th May by the right paramedian incision below the umbilicus and the contents examined. The intestines in the neighbourhood of the fæcal fistulæ were found to be so inextricably mixed and adherent that it was impossible, in view of the patient's general condition, to isolate the afferent and efferent loops of intestine from which the fæcal fistulæ arose, although it was evident that the lower part of the ileum and cæcum were involved. A short circuit by a lateral anastomosis by continuous sutures was therefore performed between the ileum, a short distance above the diseased portion, and the transverse colon.

The patient stood this operation extraordinarily well considering his emaciated condition and although fæces continued to be passed through the fistulæ they were now passed also per anum. On 14th July another laparotomy was performed, with the idea of resecting the diseased portion of bowel, and this time through the outer edge of the right rectus below the umbilicus. The resection was successfully performed but with the greatest difficulty. Several loops of bowel were very intimately adherent, and formidable difficulties were encountered in separating them and some fæces and much blood escaped into the abdomen while in one place a small portion of the wall of the resected bowel had to be left behind adherent to another loop. Finally, the lowest portion of the Ileum, from which it turned out that the fistulæ primarily arose, and which had dilated to form a large receptacle for the collection of fæces, was resected. The fistulous tracks were excised, well bipped, and they and the abdomen sewn up. The operation took over two hours, and although the patient was much collapsed for a few days afterwards, he recovered. Unfortunately he developed a Bacillus Coli Abscess which most probably arose from the small portion of adherent bowel

well left behind at the operation. A new fæcal fistula now ensued at the lower end of the second laparotomy wound and which was connected with the original fistulous track in the scrotum, which meantime had opened up. The patient was therefore left until the new fistulæ had closed down as far as possible and on 30th November, the third and final laparotomy was performed. The abdomen was opened this time by the left paramedian incision below the umbilicus. The blind ends of the resected bowel were found attached to the second abdominal incision but were easily separated. The loop of bowel connected with the new fæcal fistula was isolated and then cut away from the abdominal wall with a small portion of the fistulous track. The opening in the bowel was then closed by the two usual superimposed layers of continuous sutures, and finally a graft of omentum was placed in position over the repaired bowel and anchored there by sutures. The rest of fistulous track was then excised from the second laparotomy scar and also from the scrotum, and the wound left behind well bipped. It remained to close this abdominal opening and as it was found impossible to get the peritoneum on either side to meet, a second graft of omentum was taken and through the third incision, anchored into position, from the abdominal side, beneath the opening. This fistulous wound was then sewn up by superficial and deep interrupted sutures, and finally the third laparotomy incision in the usual manner.

The boy made an interrupted recovery, put on flesh rapidly, and was discharged on the 15th January 1923, after being $8\frac{1}{2}$ months in the hospital.

TREATMENT OF LEPROSY.

By Dr. E. E. Maples, M.D., B.S. (Lond.) F.R.C.S.

During the past eight years most of the usual methods of treating leprosy have been given a trial in the Native Hospital, Calabar. These methods are:—

(*a*) Chaulmoogra oil (Oleum Gynocardiæ, by mouth.

(*b*) Injections of Heisser's solution (an Oleum Gynocardiæ, and Resorcin mixture) intramuscularly.

(*c*) Subcutaneous injection of Atoxyl under the skin.

(*d*) Injection of Heisser-Maples' solution (*i.e.* Heisser's solution with the addition of Atoxyl) intramuscularly.

(*e*) Injection of Tartar Emetic intravenously.

(*f*) Injection of Sodium Gynocardate intravenously.

Brief reports on these methods have been submitted from time to time. In certain cases all the methods seem of value, while it must be admitted that in others no benefit is derived, but the factor which determines whether the case is going to be benefited or not remains unknown.

During the past year the last method mentioned above, *i.e.* the injection of Sodium Gynocardate intravenously, has been tried in Calabar, but no definite conclusion as to its value has been arrived at, although the cases treated seem to be improving, and declare that they feel much better generally.

An interesting case of leprosy is that of E. E., a schoolboy sent from the Hope Waddell Institute in January, 1919, by the Rev. J. K. Macgregor, because his fellow-pupils complained that he was a leper. This youth has been under treatment now for the past four years, *i.e.* up to the end of 1922, and he has received every method of treatment

mentioned above. When he first came numerous lepra bacilli were to be found in the little nodules in his lips and face, but for the past two years, none have been found anywhere, although repeated examinations have been made. The nodules have all disappeared, and he has no signs or lesions of leprosy at present, so that, but for a knowledge of his past history it would be impossible to say that he had ever been infected with the bacillus of leprosy, and therefore to all intents and purposes he appears to be cured.

TWO CASES OF SCARLATINA.

By Dr. L. W. Davies, m.d., ch.b. (Edin.)

In June, one of the Political Officers while living in the Rest House in Zaria Native Town developed typical Scarlatina with all the signs and symptoms which we are conversant with in European Countries—typical throat and pharynx, and tongue signs with enlargement of the posterior cervical glands with the rash general. Diphtheroid bacilli and short-chained Streptococci were abundant in throat swabs. He was sent on the third or fourth day to Kaduna Isolation Hospital where, after defervescence of the fever, the whole skin desquamated in large flakes.

In August, another European Officer (Nigerian Railway) in Zaria developed a like attack with every sign and symptom as above. He was also removed to Kaduna Hospital and desquamated in due course. His throat picture was the same microscopically and by naked eye. There was no blood infection of Streptococci. He had albuminuria to a slight degree.

Dr. Prout, Medical Adviser to the Colonial Office, thinks these are the first cases reported from Nigeria and possibly from W. Africa. As to their origin:—It has been elicited that the former officer received a letter from a Schoolmaster friend in England who had been compelled to close his school owing to an outbreak of Scarlatina. He himself had not been suffering from it. As to the second case his infection seems very mysterious. Neither Officers knew each other or came in contact the one with the other. It may be that the second officer used during his Inspection tours the same Railway Coach in which the first returned from Kaduna Hospital, when there may have been some remaining infection transferred to the Coach.

As regards the infection being Native borne—I have made many inquiries among intelligent Natives (Mallams and Counsellors of the Emir) and they say they know of no disease except Small-pox, in which, after a fever with an eruption, the whole skin desquamates.

BILHARZIOSIS—CASES OF.

By Dr. L. W. Davies, m.d., ch.b. (Edin.)

From March to September I treated about fourteen cases of this disease. These patients (males) ranged from eight years old to sixteen or seventeen years of age. All suffered from periodic or nearly constant haematurias with burning pain at the end of micturition. Some were deteriorated physically as a consequence. Microscopic examination of the centrifugalised urine in all cases shewed the terminal-spined ova. All were inpatients and treatment was commenced with half-grains of Tartar Emetic in about ten c.c. of distilled water injected intravenously. Two days later the dose was increased to one grain and two days following to one-and-a-half grains and in some of the worst cases to two grains. Thereafter the dosage remained constant at one-and-a-half to two grains every second day until twelve to fourteen grains had been injected. In all cases the ova became rapidly disintegrated and black-

looking, the urine cleared of blood and the patient lost discomfort in micturition and before leaving hospital were much improved physically and mentally. The injections caused some coughing in most cases after the full dose was reached. In two there was considerable nausea and in only one was there some cardiac depression (temporary). There were no alarming symptoms in any which necessitated a cessation of the dosage. The solution was made fresh for each day of injection. In the case of the younger boys (2) whose veins could not be made to stand out, I injected per rectum as much as five or seven grains in distilled water every other day. The patients were made to lie down for the rest of the day. The rectal injections were continued for a fortnight or so and I found the ova had disintegrated (not so rapidly as by the intravenous route) in that time. I was unable to find out what the intermediate mollusc is which harbours the immature worm.

THREE CASES OF CONTRACTED PELVIS.

By Dr. H. R. M. Ferguson, m.d., b.ch., etc.

1. Patient aged about twenty admitted to hospital suffering from complete laceration of perinaeum, prolapse of uterus, and prolapse of rectum—a condition of several years standing.

Interspinous diameter—18 c.m.
Intercristal diameter—22 c.m.
External conjugate—18 c.m.

She gave a history of protracted labour—stating that a still-born child was forcibly extracted.

The condition was relieved by colpo-perineoplasty, followed at a later date by hysteropexy.

2. Patient aged about twenty-five years—has two childrenboth alive—labour difficult and was helped (*sic*) at both. She suffered from cystocele and anal fistulae. Condition relieved by anterior-colperrhaphy (Blair-Bell's operation), and radical treatment of fistulae.

3. Patient aged about thirty-five, nearly six feet high and probably of very fine physique when young.—Has four children alive. Her last child still-born after difficult labour fifteen years ago.

Interspinous diameter—22 c.m.
Intercristal diameter—25 c.m.
External conjugate—17 c.m.

She was admitted suffering from vesico-vaginal fistulae, complete laceration of perineum, and rectal incontinence. There was such extensive ulceration of the vagina that hitherto no operative treatment to relieve the above condition has been possible. The measurements point to an antero-posterior flattening of the pelvis.

REPORT ON HERPES AMONGST EUROPEANS.

By Dr. G. Wilson, m.b., ch.b. (Glas.), etc.

During November an outbreak of Herpes occurred amongst Europeans, four in number, and within a few days of each other.

The first case was Herpes Zoster, the second occurred in the neck, the third on the cheek, the fourth on tho ferearm.

Chicken pox was rife in the native township but in no case were the Europeans in close contact with the natives, nor were the Europeans acquainted with each other. No case of chicken pox occurred among Europeans.

Cases 2, 3 and 4 were uneventful.

Case 1 was intense in pain,

reducing the patient to tears and requiring morphia to relieve the pa n. The Herpes was followed by a hard brawny swelling and a temperature. Deep Cellulitis was diagnosed, opened and drained. No further complications occurred.

NERVE DISEASES.

By Dr. Wilson, m.b., ch.b. (Glas.).

Of nerve diseases the following two cases of Locomotor Ataxy are of interest: the first from the extreme ataxy, the second as a concomitant of the first of the benefit of treatment.

The first was a Krooboy, unable to stand, let alone walk. It required three men to hold him upright so great was his "pitching" from incoordination. His reflexes, girdle and lightning pains complete the picture.

The second case was much less exaggerated in form but both responded exceptionally well to treatment. Novarsenobillon was given intramuscularly in both cases, mercury and iodides by the mouth, and mercury by inunction and the patients made to walk along a straight line several times a day. Their coordination has so recovered they will be able to walk out of hospital in a few days time.

A third interesting case is that of a woman found in a house by the Sanitary Department and deserted by her friends.

She was completely paralysed from the waist downwards, voiding all in the bed. Her vagina was ulcerated and a diagnosis of syphilis was made. An intramuscular injection of Novarsenobillon was given and within two days she began to regain control of her bowel and bladder. Anti-syphilitic treatment was continued and within ten days she was able to walk with the aid of a crutch. At the end of the month she was able to run and leap.

RECOMMENDATIONS.

1. That the Subordinate European Staff be retained, namely; the two Staff Sergeants and four Sergeants of the R.A.M.C., and the Hospital Dispenser and Storekeeper.

2. That the European Nursing Establishment be increased by one Senior Nursing Sister and two Nursing Sisters, thus making provision for Ibadan and Jos.

3. The West African Medical Staff should be increased by about fifteen more Medical Officers: some important stations, to say nothing of provinces, are without medical aid.

4. Increased European Hospital accommodation in Lagos.

5. A Pathologist is required for Lagos.

6. A proper water supply for Ibadan European Reservation.

H. B. S. MONTGOMERY,
Acting Director, Medical and Sanitary Service.
31.12.1922.

SANITATION.—1922.

(A).—GENERAL REVIEW OF WORK DONE, LAWS PASSED AND PROGRESS MADE.

(I).—Administration.

In the last Medical and Sanitary Report on Nigeria which covered the triennium, 1919–1921, the European personnel of the Sanitary Staff was shown thus:—

Sanitary Staff.

1 Deputy Director of Sanitary Service.
1 Assistant Director of Sanitary Service.
7 Senior Sanitary Officers.

Subordinate Sanitary Staff.

6 Sanitary Inspectors.

This Staff as shown, however, was to some extent merely a paper one, inasmuch as never more than four Senior Sanitary Officers formerly designated Sanitary Officers had been materialised. At the end of the year now under review, the actual strength of the European personnel was as follows.

Sanitary Staff.

1 Deputy Director of Sanitary Service.
1 Assistant Director of Sanitary Service.
4 Senior Sanitary Officers.

Subordinate Sanitary Staff.

6 Sanitary Inspectors.

One of the four Senior Sanitary Officers was awaiting relief, before leaving for the Gold Coast Colony on promotion to the rank of Assistant Director of Medical Service on the Medical Staff thereof; and the vacancy created by his promotion had not been filled. So far are we from the seven Senior Sanitary Officers ever being materialised, that it has since been decided that this vacancy shall be filled, not by a Senior Sanitary Officer, but by a Medical Officer of Health. This means that the Sanitary Staff shall be shown thus:—

Sanitary Staff.

1 Deputy Director of Sanitary Service.
1 Assistant Director of Sanitary Service.
3 Senior Sanitary Officers.
1 Medical Officer of Health.

Subordinate Staff.

6 Sanitary Inspectors.

This administrative change shall be reverted to later on. It is unnecessary to specify the personnel of the African Sanitary Staff here for this is shown in that part of this report which appears over the signature of the Director of the Medical and Sanitary Service himself, and the recapitulation given above would be superfluous, were it not for the fact that duty calls upon the present reporter to animadvert on it later as promised above.

2. The superior section of the Staff would have been hopelessly short-handed during the year, had it not been that two of its number were doing abnormally long tours of residential service: as it was, ordinary routine work was overtaken with difficulty and a considerable part of it was not overtaken at all.

3. It had been hinted in the last report that increased travelling by the Sanitary Officers was urgently called for. During the year under review this necessity was met to some extent but by no means completely. Within the northern group of provinces, the provinces of Kano, Bornu, Bauchi, Yola, Nassarawa, Muri, Munshi, Kabba, Nupe, Zaria, Kontagora and Ilorin, were traversed. Of those provinces, Zaria is the only one of which it can be said that the province and the emirate of the same name, are practically coincident. The others contain, *inter alia*, many emirates and several fairly considerable pagan principalities. The entire railway system within the Northern Provinces was also covered. Within the southern group of provinces, the region approachable by means of the eastern division of the railway system which, starting from Port Harcourt, has reached the river Benue at the Munshi Narrows, was dealt with to a considerable extent, and some stretches of this region were traversed more than once. During a considerable part of the year one of the Senior Sanitary Officers had his headquarters fixed at Calabar in the eastern set of the Southern Provinces: from that centre, he overtook very considerable travelling duty, which included part of the country (already mentioned) approachable from the eastern division of the railway system, so far westward as the Niger at Onitsha, so far eastward as the southern section of the mandatory territory of Cameroons, and so far northward as the confines of the Munshi Province; in addition to which, he traced the after-history of sleeping sickness in the Eket region, which had received considerable attention years ago. Westward of the Niger within the Southern Provinces, the great Province of Oyo which contains the authentically historical cradle of the important Yoruba nation, was traversed.

In addition to the headquarter office and store, a local sanitary office and a local sanitary store were maintained at Kaduna Junction in the Northern Provinces. The chief work effected in the performance of the travelling duty alluded to took the form of setting out townships, of reforming the arrangement of numerous townships already set out, of arranging sites for new public buildings and sites for new institutions such as markets, slaughtering grounds, incinerators, refuse destructors, latrines, etc., of initiating improved methods of conservancy, of improving existing sources of water-supply and of water-distribution and of finding new ones, and of supporting and assisting the Medical Officers of Health in their sanitary work and in some cases even finding them additional funds and additional labour: the sanitation of Native towns also received attention from the Sanitary officers working in collaboration with the local Political officers and Medical officers of Health.

4. The Director of the Medical and Sanitary Service, the Director of Public Works, and the Deputy Director of Sanitary Service, made the tour of the great river Benue together: in the course of this tour, they visited every riparian station of any importance, including of course, both banks at the Munshi Narrows at which the eastern division of the railway system will cross the river and result in the development of one

of the most considerable mercantile and industrial centres in the country. Here, it may not be out of place to record a fact which, although not of sanitary, is of acute general interest and is a fact which is likely to be soon forgotten. It is this:—The present reporter, in the autumn of 1904, met at Yola some twenty-five miles below the point at which the river Benue enters British territory, two French officers who, availing themselves of the flooded state of the intervening country, had made their way by canoe from Lake Tchad to the Benue. Of course, thereafter, they made their journey by water to the sea *via* the Benue and the Niger. Now Lake Tchad at its eastern shore marches with what at one time was regarded as the western boundary of the Equatorial Provinces of Egypt (this was the view of the late Sir Samuel Baker: probably that of the late General Gordon as well); the country concerned is now steadily desiccating; it is possible that, linking up with a future French system, our railway system may eventually reach the Nile; and, if this happens, it will be regarded as an interesting historical fact, that within the 20th century it was still possible to travel by water all the way from Lake Tchad to the Atlantic Ocean.

5. Early in the year, the Director of the Medical and Sanitary Service had made an extensive tour of the southern region of the British mandatory territory of Cameroons, on which he submitted a fruitfully suggestive report. This was fortunate, because the limitations of the sanitary personnel rendered it impossible for the Deputy Director of Sanitary Service to implement his promise made to the British Resident thereof, to have a tour of the territory made by one of his colleagues or by himself. The *ex-officio* Medical Officers of Health in the mandatory territory are members of the Nigerian Medical Staff, but how far they may be entitled to invoke Nigerian law in forwarding the interests of the public health, is doubtful. How far it may be expedient to apply this code of law to the territory does not seem to have been decided, but the writer of this report understands that the application of the Townships, and the Public Health Ordinance, of 1917 (or so much of each as may be necessary) is in contemplation: the practice followed in various directions certainly calls for regulation.

6. The extension of the system of roads adapted to motor traffic was steadily persisted in: *inter alia*, it became possible to reach Jemaa, the headquarters of the Nassarawa Province by motor from Bukuru on the Bauchi Plateau. Further extension of this road will be fraught with increased safety to the traveller, for it will penetrate fly country whence cases of sleeping sickness (one or two of them in Europeans) have come, and where rapid travelling is one of the most effective preventive measures. Again, it had become possible to travel by motor all the way from Lagos to Ilorin, the headquarters of the province of the same name within the Northern Provinces. A comparatively short time ago, such a possibility would have been derided. But now, the prospect of being able to reach such widely separated, distant places as Sokoto, Katsina, Maidugari and Lake Tchad by motor from the Coast, has ceased to be utopian: the importance of this becomes evident, when it is pointed out that much of the country concerned is infested by fly, and that throughout stretches of it (running into hundreds of miles) beasts of burden cannot exist; while some of the stretches alluded to tap rich country remote from the railway, the produce of which will call for its handling crowds of human beings, in addition to motor transport. In the mandatory territory, the construction of a new motor road from Victoria on the coast to Buea three thousand feet up the Kamerun Mountain, was begun. Even if Government discontinue the maintenance of the light line by which Buea is approached at present, this road will serve to keep Buea easily accessible; a necessity, if Buea, as it ought to be, achieves the status of a recognised hill-station in the Indian sense of the term.

7. Within the Northern Provinces, fourteen proclaimed townships—one of them second, the others, third class—were relieved of their dignity, thus ceasing to be townships. None of these settlements had justified its status of township by subsequent development: the best of them had remained in a state of arrested development; more of them had undergone decay; and five of them had gone back so far as no longer to possess any European in permanent residence who could appropriately be endowed with the powers of Local Authority. Slump in trade was not the sole cause of this state of affairs: railway development with consequent partial decrease in traffic along the water-ways, local changes in administrative policy, secular variations in internal economy and the like, made up such ebbs and flows as in a new country like this inevitably endow numerous settlements with chequered histories. But none of them can be said to have received urn-burial; at the worst they are in a state of suspended animation, and resurrection is likely to be the destiny of every one of them. It is rather futile to call a township a settlement whose revenue is that of a hamlet; and most of these degraded townships had fallen to this—some of them had not even fallen but had merely retained their pristine poverty. So far as matters touching the public health are concerned, the interests of these settlements have not been menaced by the administrative change: the Governor retains the right to apply to them such parts of the Townships Ordinance, 1919, the Public Health Ordinance, 1917, and other Ordinances together with the Rules and Regulations made under them, bearing on townships, as may seem expedient; their ancient boundaries have been retained; and precautions have been taken, with a view to the prevention of the development of such vested interests as might complicate (by rendering unduly expensive, in consequence of compensation having to be paid for disturbance, and the like) the restoration of their suspended status.

8. Again, within the Northern Provinces, the break-up of the province of Kontagora, which had been under consideration for some time, was sanctioned. In that province, the separate Native Administrative entities will not be affected in any essential; the only change so far as they are concerned will be that they will look to new European advisory authorities. The province will be broken up and its parts will be incorporated with the surrounding provinces of Sokoto, Nupe, and Ilorin, respectively. The chief public health consideration involved in this change, is, that the administrative centre of the great Nupe Province will be transferred from Bida (near the periphery of the province) to Zungeru, which is a central spot therein. This will render sanitary activity much more effective in the extensive region concerned, particularly on the occasion of epidemic visitations: many of the cow Filani will be affected by the change, and this circumstance will be found to have an important bearing on future activities having to do with small-pox and the possible local production of vaccine lymph.

9. *Town-Planning Committee*—A town-planning Committee was incorporated. This is a standing committee: the Chief Secretary is President, and the Director of the Medical and Sanitary Service is an ex-officio member thereof, together with the Director of Public Works, the Surveyor-General and the Deputy Director of the Sanitary Service. The planning of new townships and all material changes in the arrangement of existing ones are in the first instance considered locally by one of the Sanitary and one of the Survey officers together with the local authorities concerned, in the former case; by the Local Authority and his advisory committee (of which the local Medical Officer of Health is always a member) and if possible a Sanitary and a Survey officer, in the latter. Whenever this is possible, an engineer of the Public Works Department is called to counsel; and it is hoped that eventually there will be a permanent town-planning Engineer devoted to such work exclusively, who will be called to counsel in all cases. All questions and considerations having been subjected to exhaustive

discussion on the spot, the finally formulated proposals are embodied in a plan prepared by the Surveys officer appointed to the work. This plan is submitted to the Town Planning Committee which, of course, meets at headquarters. Any high authority who may be concerned (the General Manager of the Railway, *e.g.*, in the case of a new township, or of an existing one about to undergo material topographical change, on the Railway) is called to counsel by the President on the occasion. If as a result of discussion by the Town-Planning Committee, any amendments be agreed upon, those are shown on the plan: the plan so revised becomes the plan which is submitted for final sanction. In this, as in most new countries, where new regions are being opened up with rapidity, and where in regions already settled unforeseen expansions become necessary, sound principles of town-planning are apt to be rendered difficult to be adhered to. Pioneering agents (especially along the railway system) are apt to set down settlements impetuously, which in the nature of things must develop into townships: such impetuous settlement is either incompatible with the evolution of a well planned township, or renders eventually satisfactory planning absurdly expensive. Again it is not unusual in the case of proclaimed townships (townships are not proclaimed until their plans have received final sanction), for authorities who have formulated and gained their requirements at the original planning thereof, to demand more than their approved pound of flesh, so to speak: to submit to such demands is either to upset the town plan, or to leave the representations of important interests with a chronic grievance. When a new township falls to be planned on the railway system, its arrangement is naturally largely conditioned by the requirements of the railway authorities, who are entitled to large topographical concessions for the setting-up of the railway-station, its precincts and its adjuncts (sidings, etc.), for quarters for their employees, and it may be, for extensive work-shops as well. It is an affair of primary and paramount importance therefore, that the needs of the Railway be fully formulated and finally sanctioned before the planning of the township is begun. The present reporter can quote one large township in which the actual site of the railway-station was moved twice after the building of the town in conformity with the finally sanctioned town-plan had been seriously begun. The establishment of the Town-Planning Committee will serve to minimise such errors in procedure if it do not eliminate them. All concerned will be compelled to take long views and big views, *i.e.*, to exercise foresight and cultivate a sense of responsibility. Before the close of the year, a list of townships had been issued, together with instructions for the local consideration of each of them and the preparation of plans for submission to the Committee.

10. The health of the Colony and Protectorate during the year did not furnish reason for any general alarm. There was a recrudescence of Cerebro-Spinal Meningitis in epidemic form: this is always a serious affair; but on the occasion alluded to now, the possibility of the outbreak had been foreseen and those concerned were consequently on the look-out for it. It declared itself in the north-eastern region of the Kontagora Province, where that Province marches with the south-eastern border of the area covered by the extensive and highly fatal epidemic of the previous year. At first, its aspect was a dangerously threatening one and, for a brief space, His Excellency the Governor felt himself obliged to entertain seriously the idea of abandoning the great tour which he had reluctantly postponed the year before for the same reason; but every administrative means available for the limitation of the outbreak being employed, he took the risk and proceeded on his tour; a decision which was justified by the event. The region affected was put in a ring-fence and none was permitted to emerge from it and approach the route taken by the Governor. The action taken was attended by perfect success; no case of the infection having been spread, in consequence of crowds of people having attended the Governor's progress at many points, was observed; and the advent of the rains was attended, as

usually happens, by the subsidence of the outbreak: still confined within the ring-fence enclosing the region of recrudescence. After its subsidence by the beginning of June, no more was heard of the disease until the Autumn, when the Emir of Katsina reported it active in the French territory across his northern border; but one case only invaded his country; a mild one in a woman who entered one of his peripheral towns and failed to spread the infection there. This case is mentioned in order that it may be realised that the District is not the only Administration which voluntarily "takes a hand in the game". The end of the year found Nigeria free from the infection in active form so far as could be ascertained.

The usual outbreaks of Small-pox in epidemic form were experienced in numerous parts of the country.

Seven cases of Yellow Fever (six of them fatal) were reported from the Gold Coast Colony during the year. The usual steps were taken and the regulation preventive measures were employed at all Nigerian ports: and Quarantine was declared against Salt Pond, an infected port of the Gold Coast, in the Gazette, No. 62, of the 8th December, 1922. This quarantine had not been raised at the end of the year and in the end, it was maintained until the 20th January, 1923—*see* Gazette, No. 4, of that date. Two cases were diagnosed in Nigeria, both of them at Warri. One of the cases was a fatal one and the victim was European, an Italian: the other occurred in a Native who recovered. The prescribed action was taken: so were all the additional precautions possible.

11. *Legislation.*—Among the Ordinances, Order-in-Council, Regulations, Rules, Byelaws and Government Notices which made up the legislation of the year, the following are of direct sanitary interest:—

By Order-in-Council, under the Dogs Ordinance, 1915, the provisions of section ten, subsection (2), were applied to the township of Zaria. This provides for the detention of dogs not wearing badges: a most necessary provision at Zaria which is situated in a region in which Rabies is not uncommon.

By Byelaws made by the Lagos Town Council under the Townships Ordinance, authority was obtained for:

(*a*) Regulating the height of rooms intended for human habitation to a minimum height of ten feet in every part and at least one hundred square feet in area.

(*b*) Providing for open space in front of every hut abutting on any street or streets.

(*c*) Providing for all alterations to the internal structure of a building being subject to approval of the Town Engineer.

By virtue of similar local legislation by the same Town Council, stricter control was obtained over those committing nuisances in streets or places of public resort.

12. *Progress made.*—The establishment of the Town Planning Committee described above, will probably come to be regarded hereafter as the most material progress effected during the year 1922, for it touches all European, and many Native interests, and it will do much to mitigate that lack of continuity which constitutes a chronic drag on the wheels of progress in Nigeria.

13. By the end of the year the Governor had applied such portions of the legislation applicable to townships as were deemed necessary for the purpose, to several of the areas covered by settlements which have ceased to be townships. Some of these ex-townships are on the railway and are possessed of important railway stations.

14. A final arrangement was reached between the Railway and Sanitary Departments touching the mutual responsibility of the Railway and Township authorities for the maintenance of sanitation at townships at which there are railway stations. The necessity for the making of this arrangement arose from the administrative difficulties bound to arise in the event of the township labourers under the township sanitary inspectors and headmen entering within the precincts of railway stations for the purpose of effecting necessary conservancy and other sanitary work. All employees working within the precincts of railway stations must necessarily be subjected to railway discipline; this fact makes it obvious that sanitary labour therein should be paid and controlled by the railway authorities, and the arrangement alluded to here is to the effect that within the precincts of railway stations the sanitary work shall be effected by the Chief Engineer to the satisfaction of the Deputy Director of Sanitary Service.

15. The travelling activities of the Sanitary Officers have already been alluded to, and the nature of their work touched upon. Among townships which received special attention, were Enugu, Onitsha, Umuahia, Aba, Ikot Ekpene, Port Harcourt, Calabar, Ibadan, Lokoja, Ilorin (one of the townships since declassed), Kano, Zaria, Kaduna and Jos.

16. During the greater part of the year, Enugu constituted the northern terminus of open line on the eastern railway system. Enugu is an important township now but is likely to become a much more important one in the near future. The railway authorities propose to transfer a very considerable part of their works and personnel from Port Harcourt to Enugu; the mercantile community already established there anticipate great expansion of trade and it is likely to become a highly important administrative centre as well. In addition to this, Enugu is the centre of the Nigerian coal-mining industry. The final planning of this township presents considerable difficulty: it had already been a settlement before the present authorised system of town-planning was adopted; to superimpose a modern township on such a settlement is to make a topographical palimpsest of it, as it were and this is apt to be an expensive as well as difficult operation. Nevertheless it is possible so to guide the development of Enugu as to convert it into a township of the highest (B) category in the end. With this end in view, all possible steps were taken during the year. Additional requirements involving, inter alia, the taking in of more land, formulated by the General Manager of the Railway, brought the township under the immediate cognisance of the Town Planning Committee, since when, and hereafter, no topographical change has been, or shall be, possible to effect, without the consent of that body having been obtained. At present, the Prison and several minor centres of non-European population are situated within the European Reservation, but these will be eliminated gradually, as opportunity may arise, and meanwhile no addition to such enclaves will be permitted. The temporary railway construction camp is situated on what eventually will form part of the area occupied by the purely residential European Reservation. This future reservation, although ear-marked, has not yet been formally set out, but it is safely reserved, as is likewise the area which shall constitute the neutral zone separating it from the existing mixed trading and residential European Reservation.

Arrangements have been made for a new permanent slaughter house and other improvements being established at an early date: the non-European Reservation, the market, and sanitary offices for both were carefully supervised during the year and the precautions taken for the prevention of future mistakes are very nearly fool-proof. The colliery settlement and works which form a suburban area outside the township received careful attention and will continue to receive it. An area across the neutral zone and outside the Township boundary

temporarily occupied as a railway labourers' camp, was brought under the control of the Local Authority in order that it might be made subject to the same sanitary, and other, regulation as is the township itself. The question of a permanent satisfactory water supply was (and remains) the most clamant of the immediate problems presented by Enugu. This problem received all the attention which the Sanitary Department was competent to direct to it; and it still receives it: in the meantime however, it is in the hands of the Department of Geological Survey and in those of the Public Works Department; the latter, guided by the advice of the former, is prospecting for a satisfactory source of supply; one such source is available, but to tap it will be costly, and a search is being continued for a source of supply more within the means available. Meanwhile the existing supply which is drawn from two streams, is at once inadequate in quantity and bad in quality and calls for close attention.

17. Of the other townships mentioned, it is superfluous to say more than that the problems which they present are matters of routine: questions concerned with extension, rearrangement and the like, new or amended water-supplies, additional latrines, incinerators, and refuse destructors, and improved regulation of markets, and slaughtering arrangements. Much of the attention directed to the older townships had for its object gradual change in the direction of gaining for them some approximation prevention of retrograde changes which were likely to militate against such movement.

18. Offensive trades were never lost sight of but little or no progress can be recorded in connection with them, unless the prevention of the existing state of affairs becoming worse, may be accounted as progress. This was particularly true of those offensive trades (fellmongering chiefly) conducted at Kano and at Zaria. At those townships, Government had not been able to implement its promises made to the merchants in *re* new water-supply and the furnishing of new sites with necessary railway-siding accommodation; it was inequitable on the part of Government to call upon the merchants concerned to carry out their promises which were conditional on Government fulfilling its own promises; in the existing state of trade, neither Government nor the merchants could afford to sacrifice the fellmongering industry and all that was expedient was to permit things to go on with so little nuisance as possible—to make sure that however much the senses might be offended, the public health should not be adversely affected.

19. Remembering that the British Empire Exhibition will probably have been formally declared open before the next annual report shall have been discussed at home, and that practically everybody in Nigeria has been made to understand that he is expected to contribute to the common stock anything characteristic of Nigeria (whether material, scientific, historical, or ethnological), which may be likely to prove interesting, within his power to submit, it is difficult to restrict an account of progress made to the year under review alone. Nigeria is at once one of the newest and one of the largest Dependencies of the Crown: the history of Nigeria (looked at through parochially European spectacles) cannot therefore be a long one; but although on the surface her history may seem to have been made in a hurry she has happily hitherto escaped many of the misfortunes which attend history made in a hurry. Extensive changes have been effected in Nigeria since she came under British protection. Change, however radical, is not necessarily synonymous with progress; but much, if not most, of the change effected in Nigeria since the imposition of British protection, has been true progress, and in the making of this progress sanitary activity has taken part. To write about the history of Nigeria does not fall within the province of the present reporter but he may be pardoned for alluding to two or three historical facts which must be interesting even when mentioned in a Sanitary Report.

20. Leo Africanus, a learned Moor, deserves mention in this report, if for no other reason than that, besides being one of the first travellers who made Nigeria known to Europe, he wrote lives of the Arab physicians: those benefactors of humanity who kept scientific medicine alive through the dark ages. His account of the parts of Nigeria which he had visited (Wangara, Katsina, Bornu and Lake Tchad, which he had, of course, reached from the North by crossing the Desert) was given to the world at the end of the first quarter of the 16th century. He was the god-son of Pope Leo X; he was, at different stages of his life, the contemporary of Columbus, of Vasco de Gama, of Martin Luther, and of Ferdinand Magellan; there was already alive in his time the great Englishman who started the Nigerian trade in slaves with America and whose activity was the predisposing cause of Nigeria exchanging with America her guinea worm for America's jigger. He was, while residing in Italy, a witness of the invasion of Europe in pandemic form by syphilis, that modern scourge of Nigeria, and it may well have been that experience which prompted him to abandon a life of pensioned, learned leisure at the most polished Court in Europe, return to Africa, resume the civilisation of his youth, and die in the faith of his Fathers. For some two centuries or more after the death of Leo, Europe betrayed little or no interest in that part of Nigeria which he had visited and reported upon; or in any other part, barring the strip of coast to which slaves were brought for sale. But when at length Europe began to take interest in this part of Africa again, Britain came to the front, and if priority and supremacy in expenditure of blood, treasure and benevolence, give higher races the right to impose upon them the call to assume the protection of lower races, Britain, as the Protector of Nigeria, is at once exercising her right and doing her duty. Up to date, she has been doing her duty. If a great Englishman started the Nigerian slave trade, which has been denied by some, Great Britain struck the fetters from Nigerian slaves. If early English slave traders were partly responsible for the invasion of Nigeria by syphilis, which is by no means certain, Britain has been the first power to make any serious attempt to combat the pest.

21. The serious occupation of Nigeria was effected from the coast. The history of Lagos Colony and of mission enterprises there, at Calabar and elsewhere will, no doubt, be related in the proper place. Here digression must be left, and historical remarks must be restricted to sanitary progress and to facts bearing thereon. Apart from the slave trade, and from mission enterprise concerning which the present reporter possesses little knowledge, the recollection of the white man on the Nigerian Coast and estuaries, possessed by the oldest inhabitants whose evidence could be taken twenty years ago or even later, was connected with the trading ship which came out laden and hung about the coast, or cruised in and out of the creeks, bartering her cargo for produce until it had been completely disposed of: this operation might take any time up to a year to complete. Meanwhile the toll exacted by disease (Malarial and Yellow Fever chiefly), more often than not resulted in the ship finally having her sails set with difficulty by the skeleton crew which was all that she had remaining, when, having completed her season's trading, she sailed away. In those days, it was not safe to establish factories ashore. Later, hulks were moored in various creeks and used as factories; traders had their permanent residences aboard them and the ships came to act as tenders to the permanently moored hulks. The present reporter can remember one of those hulks moored in the river at Calabar still being used as a factory so recently as 1907. Later still, factories were set up ashore, and the sailing ship was gradually replaced by the steamer.

A gentleman, formerly a trader, who was still in the service of the Southern Nigerian Government fifteen years ago, related to the reporter how he had made his first voyage to the "Oil Rivers", as Southern Nigeria was then called, on a schooner of 170 tons, from Liverpool; how he had been storm-stayed at Belfast for sixweeks; and

how the Irish bacon and potatoes with which they had revictualled there, had nearly given out before they reached the Coast. In the minds of the natives, trade and traders were entirely associated with ships, and until quite recently (it may be so still in certain creeks) in the rivers, the agent of a factory was called the captain, his quarters, the poop, and his kitchen, the galley. In like manner, the political officers were known as consuls, big consuls, little consuls and the like; the natives' first acquaintance with a fixed European administration being associated with the consular service set up by Sir Claude MacDonald. Later (isolated expeditions like those of MacGregor Laird are not referred to here), ambitious traders having penetrated farther up the Niger, amalgamations and buyings up were effected, until at last the result was the Niger Company which, having obtained a royal charter, became the Royal Niger Company, was entrusted with the internal government of what is now the Northern Provinces of Nigeria, and enjoyed a trading monopoly within the region which it administered. How the Oil Rivers Protectorate of Southern Nigeria, on that region passing from the jurisdiction of the Foreign, to that of the Colonial Office; how the Royal Niger Company's territory became the Protectorate of Northern Nigeria what time the Company had surrendered its Charter; how Lagos and the two Protectorates finally became the Colony and Protectorate of Nigeria, are all told elsewhere. What concerns this report is, that until the developments mentioned had been going on for some time, nothing in the shape of an organised medical service was established. A few doctors had been brought out by wealthy trading corporations; the old Lagos Colony possessed a rudimentary medical staff; the Oil Rivers Protectorate and the Royal Niger Company had each its own medical establishment; but no Medical Service which could be taken seriously was in existence before the last decade of the 19th century; and until the present century had set in, the Medical Service could be regarded as nothing more than a purely garrison medical staff.

Not until the advent of the century were anopheline mosquitoes generally recognised as the carriers of malaria. Up to 1903 sleeping sickness had not been recognised as the last phase of trypanosomiasis; and it was in the same decade that the Stegomyia fasciata was recognised as the carrier of Yellow Fever. It may be said that the modern medical and sanitary history of Nigeria began a quarter of a century ago. Until the opening of this epoch, medical energy was too exclusively devoted to attempts to preserve European life for much to be left to spare for other purposes. The death and invaliding rates of the early days gave ample evidence of the truth of this.

22. Sanitary service began with the raising of the West African Frontier Force, and may be taken with increasing seriousness from 1897 onwards. The Force had its own medical officers; the patients of those officers were men under military discipline; and the medical officers were in a position to enforce elementary sanitation—and this with relative ease, respect for sanitation being generally associated with troops under British discipline. At first, sanitary activity was naturally of the most primitive order for the troops were constantly on active service, and the sanitation was necessarily that of the shifting camp. Later, after the conquest of Kano and Sokoto and the final defeat and death of the deposed Sultan of Sokoto, in 1903, troops began to sit down in cantonments and fixed stations for relatively prolonged periods, in Northern Nigeria. The same was true of Southern Nigeria to some extent, but the troops there were more frequently out on patrol than were those in the North. On the other hand there were larger stationary civil populations in the stations of the South than in those of the North, which served to equalise matters to some extent. With increasing stationary populations to deal with, the establishment of systematic sanitary measures became progressively easier and the measures themselves became more effective, for the discipline of the

soldiery had its counterpart among the civil population of the stations in the subjection of the latter to the civil magistrate. But it was necessary to travel a long way before matters could be regarded as satisfactory. For example, in 1901, the Europeans at Lokoja were housed in wooden bungalows resting on iron pillars, which latter, in their turn, were bolted on the top of cemented brick pillars rising from the ground. The iron pillars, half way up their length, were collared with iron bands, presenting on their upper surfaces concave rings surrounding the pillars. Those circular concavities were kept full of water in order that white ants might be barred from the wooden bungalows. The white ants were barred all right, but the water in the concave rings swarmed with mosquito larvæ; as things were, it was impossible to assure the regular oiling of the water in the rings; the chronic loss of service among the Europeans (both civil and military) caused by incapacity due to malarial fever was little less than 50%; the cause of this was fully represented, but it took months of medical agitation to secure the filling in of the iron rings with cement. Further south, some years later, the present reporter encountered living in a bungalow raised on pillars from the grounds a well known and widely respected European who permitted his house-boys to use habitually the surface of the ground under his bungalow as a common latrine without reprimand or protest. About the same time, there were known to the reporter respectable African coast natives who permitted their wives and children to leave their entire dejecta standing within chamber-pots within their houses for days on end without removal, the chamber-pots being not even covered. As time went on, conservancy became gradually effective, so also did anti-mosquito measures; more attention was devoted to the quality of water-supplies; town markets were more closely supervised; and the racial distribution of the population of stations was regulated. Progressive improvement followed all this; so much so that many years ago it had become possible to formulate this rule, to wit: "Sanitary measures may be pronounced successful when it can be said of a station that the majority of its sick are importations from without and not habitual inhabitants of the station itself."

The sanitary condition of a town or station in a region where hyenas are found can often be gauged by the prevalence or rarity of these animals. As the sanitary condition of the town improves, hyenas decrease in number: if the sanitary condition deteriorates, these scavengers increase in number because there is more garbage to attract them.

The sanitation of the Southern improved more rapidly than did that of the Northern settlements: this was at least one good point about the liquor traffic; for the South, where trade liquor was permitted, enjoyed a larger revenue than did the North where it was not, and being richer could afford to spend more on sanitation.

23. Pari passu with the progress of sanitation in the settlements the country began to be opened up by the construction of roads (a form of activity in which the South early took the lead which it still retains, though not to the same extent as was the case formerly); along the roads rest-camps were established which made travelling easier and healthier, and the incidence of sickness among travellers declined. Progress keeps steady in this direction: rest-camps are not allowed to be erected in close juxtaposition to Native towns and villages and those of them which are so situated are steadily decreasing in number for when re-erection becomes necessary, the rule applies. Travelling by water is not so common as it used to be: this eliminates much sickness traceable to the bites of insects which haunt rivers and streams. The introduction of railways and of motor-cars, by rendering point to point travelling through unhealthy regions of short duration, is steadily lessening the incidence of ill health. Improved housing and improved town-planning have made and are making steady progress in the same direction.

24. The most pronounced effect of progressive sanitary improvement is seen in the comparatively large proportion of the European population which is now made up of females. A dozen years ago not one half of the European female population could have maintained the footing in the country which it maintains now: eighteen years ago, not one fifth. Twenty years ago, it was not uncommon, during specially sickly periods, to find the nursing sisters so busy nursing each other that they had not the time to nurse ordinary patients. Now, this is a thing of the past: forgotten by most people who have been in the country long enough to remember it. The sanitary reforms which have brought this about are, taken in the order of their importance, these:—

(1) The increasing observance of the policy of European segregation; (2) Preventive measures taken against mosquitoes and other biting insects; with which is, of course, included the drainage of pools and puddles, the filling-in of borrow-pits, and grass and bush clearing; (3) The universal use of the mosquito-net; (4) Easier, more comfortable and more expeditious methods of transport.

25. Not Europeans only have shared in the progress reported above: the non-European inhabitants of the townships and settlements have gained quite as much. This, however, does not hold good to the same extent, in the case of the indigenous Natives away from proclaimed townships and other European settlements. The indigenous Natives of Nigeria taken collectively, constitute one of the most heterogeneous communities in the world. In degrees of civilisation, in stages of evolution and of devolution, in religion, manner, law and custom, in language, in everything which can separate one group from another, they differ with one another. Some are cannibals who exchange with each other the dead bodies of their respective relations for dietetic purposes; others practise, or practised until quite recently, human sacrifice; some go about (men, women and children) stark naked as a matter of habit; and many are incapable of comprehending a number greater than five. Many are given over to the most degraded fetichism, practise unspeakable rites and apparently do not possess the faintest glimmer of a moral sense. At the upper end of the scale are highly-bred, highly intelligent people who can recount their ancestry and their racial history for centuries back, some of whom may truly be regarded as scholars and polished men of the world. Some are real statesmen, and many of them, besides being men of affairs, are strictly religious and capable of giving acute reason for the faith which is in them. Between the extremes set forth above, are all gradations. Some may be led; others may be influenced by persuasion; some can be driven; and many cannot be influenced at all.

26. *Progress among the Indigenous Natives.*—Not in many cases can Government impose sanitary progress upon the indigenous Natives. Some of the lowest types might go through the form of submitting to almost anything; but their utter lack of intelligence would render futile most measures imposed upon them. There are very few who cannot be made to effect clearing operations for themselves, but here the matter is apt to end.

Many Pagans can be induced to practice very effective methods of segregation against infectious disease; they will submit readily to vaccination, and they will take to recommended clearing operations with avidity, but to safe-guard their water-supplies, to abstain from dangerously offensive articles of food, and to protect themselves against Anchylostomiasis by reforming their arrangements for relieving the calls of nature, are things which they will not bring themselves to do.

Much sanitary progress can be, and has been effected among the higher tribes who live under relatively high forms of administration. This is true of the people (of many of them, anyhow) who live under the Alafin of Oyo: it is also true of the people living under the Northern Emirs, and of those living under a good many smaller independent magnates.

Examples of progress effected among numerous groups of such people since the beginning of the century are as follows:—

(1) Effective isolation of their sick relations and dependants whom they know to be suffering from infectious disease; (2) Application of the usual preventive measures against mosquitoes and flies; (3) Setting out new towns for themselves on reformed lines suggested by political, medical, or sanitary officers; (4) Active measures taken for the safe-guarding of their water-supplies; (5) Willingness to reform their methods of disposing of human and other ordure and of getting rid of rubbish, when the wisdom of doing so is proven to them; (6) Taking active part in the pushing of vaccination; (7) the setting-up of extra-mural markets and caravansaries; (8) Keeping long crops away from their compounds, and sometimes pushing them out well beyond the town boundaries as well.

Such activity has been going on in increasing instances for close on twenty years now. Again, in recent years, leading Natives convinced of the efficacy of preventive measures have taken an active part in ascertaining and reporting the movements of Epidemic Disease.

Many more Natives of what may be called, in relation to the other races around them, the middle type of development, seek medical aid than did formerly. Natives of almost any type will seek the services of doctors whom they may have got to know and respect, but the process is a slow one.

27. It is exceedingly difficult to report in general terms of the Natives of Nigeria as a whole, so heterogeneous are they in bulk, as has been mentioned. This may be said, however, that in a new country acquired by Britain, in which slavery has always been an institution, trouble of some sort is bound to arise. Britain will not tolerate slavery, nor will she suffer lawlessness gladly; and when the liberation of slaves and the establishment of the Pax Britannica occur synchronously, or nearly so, the results are apt to be embarrassing. There can be no doubt that the establishment of the British protectorate has resulted in loosening of ancient moral and natural ties and of filial bonds; while in some regions it has undermined traditional respect for properly constituted authority: no code of law can replace the lost incentives to good conduct: and in any case, when computing the gravity of the same crime, the Native and the European do not necessarily apply the same criterion. This falling away becomes more pronounced the more nearly the railway and the townships are approached. It is not nearly so obvious in the neighbourhood of small bush stations and settlements for the Europeans settled there as a rule have a fair knowledge of and consequent respect for Native law and custom; they act accordingly, and they generally contrive to make the alien employees imported by the European do likewise. In more remote regions still, natural family affection and sense of duty, together with respectful deference and attachment to customary authority (inherited or representative), are hardly impaired at all. All this has a direct and very strong bearing on the question of sanitary progress. Within the boundaries of townships and stations, sanitary progress, except in so far as it means expenditure of money, is almost exclusively an affair of law, rule and regulation enforced by the civil magistrate, or by their own officers in the case of the soldiery. In the country regions generally, progress is mostly an affair of educating, convincing and persuading the big men—those

natural representatives to whom the people look for leading and guidance so long as the inherited sense of decency remains materially unimpaired. It is for this reason that real sanitary progress is effected much more easily in remotely landward, than it is in Native Administration districts near the townships and the railway. This is readily seen when isolation has to be given effect to during visitations of Cerebro-Spinal Meningitis or other epidemic disease.

In townships and other directly administered areas, the law dealing with this state of affairs is invoked by the sanitary, and applied immediately by the executive authorities; in the remotely landward regions, segregation camps are run up at once, and isolation of the infected is contrived very effectively by the Native authorities acting on the recommendations of their European advisers; but in the country regions near direct Administration areas, epidemic disease is made exceedingly difficult to deal with effectively, in consequence of no adequate substitute having been found for the impaired Native authority. Of course, there are exceptions to this, just as there are exceptions to all rules, but the state of affairs here set forth is true of the country taken generally. Throughout the last twenty years, sanitary progress has been a permanent phenomenon in Nigeria: it has naturally been a more rapid development in the directly, than it has been in the indirectly, administered regions: but it is seldom entirely suspended anywhere, except in the sort of "half-way house" country regions mentioned above.

28. European food is now procurable from Cold Storage at Lagos, at Calabar and Port Harcourt, and it may be realised that the innocent African may be safely trusted to keep his own end up when it is mentioned that although the Nigerian coast, rivers and streams teem with excellent fish it is, not infrequently, cheaper to buy salmon or turbot from the Cold Storage Company than to purchase fresh fish in the markets.

The setting-up of aerated water factories and of ice-plants is slowly but steadily extending. All this must be reported as progress. But the physiologist—and, a fortiori, the pathologist—cannot regard such progress as more than a mixed blessing. In Nigeria as in the tropics generally, most Europeans eat and drink more than is good for them: unusual facilities for procuring abundant food and drink augment this proclivity and bring about chronic over-absorption in many individuals. It is for this reason that the proverbial "West African Chicken" has been and remains an unmixed blessing: its ubiquity renders it an unfailing source of supply, while its toughness and indigestibility defy over-absorption with consequent overloading of the system.

29. Allusion has already been made to railway extension, to the constant making of new roads and extension of existing ones, and to the increasing employment of motor-transport. All this, together with the cheapening of motor vehicles, and push and motor cycles coming within the means of all but the poorest, is changing the face of the country in some respects. This progress is nearly all to the good; but not entirely so. It is little if any exaggeration, to state that with some, walking is becoming a lost art; new-comers are apt to feel ill-used when they have to walk five or ten miles where their predecessors habitually walked twenty or twenty-five, without thinking or saying anything about it; and many clerks and artizans habitually put on the martyr's crown so soon as they find themselves obliged to walk half so far to their work as average London clerks and artizans habitually walk to theirs. While all this increase in the general use of mechanical transport is good for trade, and saving time and economising energy, it is undoubtedly introducing an element of softness which is not good for the public health.

30. The extension of improved housing has been going on steadily for years and the activities of the merchants in this direction have always rivalled and not infrequently surpassed those of Government. During the year under review, this activity was a prominent one but of course, financial stringency curtailed it materially. The building programme carried through at Ikoyi materially relieved the acute congestion of the housing accommodation available for Europeans in Lagos itself. As an extension of Lagos, Ikoyi has shown itself a pronounced success; the Ikoyi plain affords ample room for expansion and it bids fair to become in the end one of the finest residential localities to be found at any town or settlement in Africa. All the permanent houses at Ikoyi have water and electric light laid on; the sanitary arrangements are excellent, and well-planned roads, which still require adequate metalling, sufficient to meet all the needs of the current building programme, were completed during the year. Although the provision of adequate European housing for Nigeria is still far from complete, the European community enjoys accommodation which is palatial when compared to what was vouchsafed to most of its members a few years ago. The present reporter can recall the time when the average European would have regarded the housing provided at Ikoyi for servants as comparative luxury. During the year, the Government wisely began to give effect to the plan which it had adopted, of erecting houses, of, so-called, semi-permanent type at a relatively low cost. This move means progress at a cumulative speed and it will assure comfortable tropical housing to many who would have left the Service without ever having known such comfort, had it not been adopted.

31. The new conditions of Service, in so far as increased length of the regulation tour of residential service is concerned, have not yet been so long in operation as to warrant any dogmatic opinion about them, from the present reporter's point of view, which is naturally that of a sanitary officer. For reasons which need not be gone into here, however, he trusts that the fallacy may be avoided of gauging health conditions by latitude and elevation above the sea, exclusively, and that in future, man having a mind as well as a body, some attention may be directed to the psychological, as well as to the physical, equation. Attention to the latter point in the past would have saved much invaliding and ineffective service: it will be profitable in the future.

(II).—PREVENTIVE MEASURES.

Mosquito and Insect-Borne Diseases.

32. *Malaria, Yellow Fever and Filariasis.*—The routine preventive measures maintained against this group of diseases have been stereotyped for so many years now, that it would be rather jejune to set down an exposition of the subject here. These measures are purely a matter of money in areas under direct administration—it always being understood that those concerned in the application of them are working at concert pitch. Given this honest work and the maintenance of the funds necessary for giving effect to it, the sanitary worker is a sort of inquisitor who devotes his energies to the encouragement, assistance and stimulation of conformists, and to the prosecution of non-conformists —he who seems to revel in breeding mosquitoes and other insects in his compound and has to be prosecuted in court; and if he have a talent for legal hair-splitting and putting up a specious defence before the magistrate, he can maintain his larval conventicles for an unlimited time for exhaustive daily inspections carried out with fidelity are very fatiguing in the tropics, and the reserve of energy required for following offenders into court is not unlimited in any sanitary worker: if therefore, the same offender get off several times in succession, it cannot excite surprise that the sanitary worker sometimes "throws up the sponge" and leaves him alone, to the grave danger of the public.

Records of malarious and filarial invasions are interesting inasmuch as they show the ebbs and flows of them in Europeans and non-Europeans who come under direct medical observation and treatment, but such people are but a moiety of the population, and they cannot be taken as a pattern of the incidence of these invasions, for they are a treated community, while the bulk of the people are not.

In the great Native populations remote from European influence, malarious children with enlarged spleens and people of all ages harbouring filariae are so numerous that they often seem to constitute the majority. After many years of extensive experience of the indigenous population and of intimate intercourse with some sections of it, the present reporter has come to despise medical statistics, when they are taken as affording a microcosm of the preventable diseases of the country. Such statistics are of value in so far as they show the routine work tackled by the medical profession, and consequently the health of the population of townships and of established settlements but they can no more give a picture of the public health of the country than can a dinner at the Savoy teach an intelligent foreigner how the people of England live. What is meant is this:—Although the vital statistics of a community of one hundred thousand or more in England, may be taken as those of a miniature England and Wales, neither the vital statistics of any one local population nor those of all Nigeria, can be regarded as those of a miniature Nigeria. Thirty-two cases of Blackwater Fever were treated during the year, and thirteen thousand nine hundred and twenty-three, of Malaria. Unless there really be a specific organism for Blackwater Fever for which some workers are still seeking, these figures seem to suggest good hygienic surroundings, good food and careful lives led, and remarkably little malarial saturation, among those treated. The present reporter, for more than twenty years, has been seeking to see or hear of a case of Blackwater Fever (properly authenticated with all references verified) occurring in any person who has always taken his prophylactic quinine regularly and properly.

Only two cases of Yellow Fever recorded for the year represent good fortune for Nigeria: they also suggest fairly effective anti-mosquito work; and the interesting annual report submitted to Lagos Town Council by Dr. Clark, Senior Sanitary Officer (and Acting Medical Officer of Health for the Town and Port), may serve to lend support to the suggestion.

33. *Trypanosomiasis.*—There is little new of interest to record here. The preventive measures described in former reports were maintained during the year.

The work being done and reported upon from time to time, on the bionomics of the tsetse-fly, by the Tsetse-Fly Investigation Commission, dwarfs any remarks on the subject which might be expected in a sanitary report.

34. *Cerebro-Spinal Fever.*—A recrudescence of this infection in localised epidemic form occurred, as already stated, in the region bordering on the theatre of the great epidemic of the previous year. The victims received no individual medical treatment as it was impossible (on account of the limited personnel of the Medical Staff), to detail medical officers for the purpose. But as stated, the ring-fencing of the affected region was overtaken after a highly successful fashion, and the advent of the rains did the rest. Another recrudescence in the same region will fall to be mentioned in the next annual report.

Such outbreaks are rare in the townships and settlements at which resident medical aid is available, and when they do occur there they are stamped out with comparative ease. An outbreak of this infection never occurs without the ordinary observer regretting that the meagre personnel of the Medical Staff does not permit the posting of a certain number of medical officers to circuit duty exclusively. When an

outbreak occurs, as the epidemic of 1921 and the recrudescence of last year did occur, in a region in which the Native rulers retain the obedience and respect of their people, localising the outbreak can be effected very successfully as was done on both occasions. Had the indigenous Natives concerned been out of hand, the long odds are that the visitation would have taken in all of the northern peripheral provinces but as things were, the local magnates not only used their influence in furthering preventive measures, they went out to the districts and themselves took a hand in directing the construction of segregation camps and in isolating the victims therein: the greatest source of regret was that, as hinted above, it was quite impossible for clinical, to be made commensurate with preventive, work. The number of healthy carriers of the infection in those northern provinces must be enormous; accumulations are bound to reach explosive point periodically; and (in the absence of some effective means of mass treatment) highly fatal epidemics must be expected at intervals for many decades to come. The people are by no means demonstrative; the ignorant are resigned; so also are the intelligent, who are predestinarians to a man, and an ordinary traveller might pass through a region where an epidemic was raging without realising that he was doing so.

35. *Dysentery and Enteric Fever.*—The amœbic form remains by far the most common variety of this extensively spread infection. Natives all over the country actually do realise that there is great virtue in European treatment, so far as this disease goes, and anybody known to be a doctor and many other Europeans as well, are constantly being appealed to, by all sorts and conditions of indigenous Natives, for aid. Fortunately, it is one of those diseases which the doctor on the road can do much to relieve: half a dozen Keratin-coated, half-grain tabloids of emetin given to a Native, together with instructions to take one daily until they are finished, often work wonders in the way of mitigation, and Natives who have experienced this benefit often profit by instructions touching care of water and other preventive measures.

36. *Pneumonia and Influenza.*—These infections were very prevalent in various parts of both sets of Provinces towards the end of the year. There is, however, nothing new of interest to mention in connection with them.

37. *Tuberculosis.*—Some very tragic cases of this disease are seen annually by most observers. If pains be taken, the source of infection can be ascertained in most cases, but this is not productive of much good, for it is all but impossible to induce the common people to take precautions against it or to submit themselves to rational treatment. Leaving out the more or less anglicised classes of the Coast, it is not a disease which has so far obtained a footing among the upper classes: this is not surprising for they lead comparatively hygienic lives *vis-á-vis* this infection.

38. *Leprosy.*—The long contemplated movement against this widespread indigenous infection has not yet been materialised and there is little immediate prospect of any change. As stated in former reports, in Nigeria it largely takes the place occupied by Tuberculosis at home, and the systematic tackling of it presents much greater difficulty than does the tackling of Tuberculosis in England, where the existing machinery, although transcending anything of the sort conceivable in Nigeria within the life-time of any now living, does not accomplish everything expected of it.

39. *Measles, Rheumatism, Rabies, and Tetanus*, although prevalent, need not take up space in this report. Preventive measures against the second two are next-door to the impossible for reasons explained more than once before.

40. *Small-Pox.*

VACCINATIONS.

SOUTHERN PROVINCES.

	1920.	1921.	1922.
Total number vaccinated ...	302,028	297,823	218,097
Successful	149,892	150,364	106,474
Percentage of success	49·1%	50·48%	48%

NORTHERN PROVINCES.

	1920.	1921.	1922.
Total number vaccinated ...	7,396	15,731	15,278
Successful	2,672	3,203	4,880
Percentage of success	36·10%	20·30%	31·92%

Outbreaks of Small-pox, as usual, occurred over many regions of the country; as a matter of fact, there was no considerable division which could be regarded as altogether free from it. Vaccination and the other routine preventive measures were steadily persisted in throughout the year. A satisfactory solution of the difficulty in procuring and distributing an effective supply of lymph has not yet been found. The improvement in the percentage of success reported from the Northern Provinces where success is so difficult to achieve, over that of the previous year, points to the lanolised lymph now employed being of greater potency than that of the dried lymph formerly in use, but the results obtained over a succession of several years would have to be known before this could be affirmed with certainty.

During the year one case occured in an European officer who had contracted the infection in England and spent the incubation period aboard the mail steamer on the outward voyage: he had felt unwell for two or three days before landing; the eruption showed itself after he had left Lagos to travel northward on the boat train, and he was taken off the train and isolated at Zaria. He made a good recovery, although the attack was a comparatively sharp one. It is something new for small-pox to be exported from "enlightened" England to "Darkest Africa." This is probably the sole occasion on which such an event has happened in the history of Nigeria for a century at least. As conscientious objectors are not recognised in Nigeria, the time may come when Nigeria will be obliged to declare quarantine against England. Attempts are still being made at making arrangements for the establishment of local lymph supply: although these have been unsuccessful so far, they are being persisted in. One of the Senior Residents whose province contains many cow Filani, has kindly undertaken to assist in these attempts and to enlist the services of the Native magnates of the province as well. The extension of the installation of ice-plants which is steadily going on will help in this work.

41. *Chicken Pox.*—Of Chicken Pox there is only this to be said: that in common with practically all the infective diseases, no true conception of its incidence can be gathered from the recorded statistics which are approximately correct for the townships and other directly administered settlements only; that it is common in many regions whicha re seldom or never traversed by medical men, and that it tends to show itself in a more severe form in the neighbourhood of the Coast than it commonly does in the interior. The last statement conforms to the experience of the present reporter: it may be of interest to record here, however, that it has recently come to his knowledge that not all of the country people in the Northern Provinces regard the infection so

lightly as he has hitherto had reason to believe. In some regions so widely separated from one another as are the province of Zaria and the French district of Bagirimi over against Lake Tchad, the people describe a type which they greatly dread. Touching this type, they describe an unusually high fever of three days' duration, attended by invasion of the eyes by the eruption with, not uncommonly, consequent blindness. This type, so they say, occurs at the height of the hot season just as the first rains are breaking and it is not infrequently associated with the prevalence of hay-fever which is common at this season. The present reporter has never himself observed this condition: the report serves to show how much still remains to be learned about the endemic diseases of the country.

42. *Venereal Diseases.*—The only new statement that can be made here touching this group, is, that these diseases appear to be as widely disseminated in the southern section of the British Mandatory Territory of Cameroons as they are in Nigeria. Much of the labour on the Plantations, *e.g.*, is rendered ineffective for prolonged periods by chronic sores and ulcers which will not heal. Short, sharp courses of Mercury and the Iodides would be attended by rapid healing of those disabling sores but the necessary medical personnel for identifying the syphilitic taint and assuming the responsibility of applying the obviously necessary remedies, is not available. Other manifestations of syphilis, aud also the sequelae of gonorrhoea, take heavy toll of the same labour.

43. *Helminthic Diseases.*—Helminthic diseases do not seem to excite so much acute interest now as they did in the days of exclusively primitive transport. It is not a case of familiarity breeding contempt, but one of less frequent observation. Hundreds of miles are now traversed by rail, which formerly had to be covered by daily marches; in proceeding across country, it is becoming increasingly common for the traveller to travel by stages of about one hundred miles a day by motor car, taking one servant and such immediately necessary loads as the car can accommodate with him; and when ordinary daily stages are done, in consequence of the improved roads, the traveller goes right through from rest-camp to rest-camp by motor, or ordinary push bicycle, instead of on horseback or foot. Whether the longer stage covered by motor car, or the daily stages by the humbler form of mechanical transport be considered, the results are the same: the traveller leaves his loads and consequently his carriers, to come on behind him and he misses the daily personal intercourse with his followers, which was inevitable in the days when he accompanied them on foot or on horseback. Now, when the carriers arrive in the rest-camp at which the traveller who has pushed ahead of his loads is sitting down, the headman may report that one carrier, or more than one it may be, has fallen out on the road and that extra assistance has been found to bring the load or loads along: in this event, the traveller simply pays for the emergency labour, and instructs the headman to employ locally such extra labour as may be necessary to make good the deficiency and unless the derelict carriers struggle in later without their loads, the traveller does not see them, his responsibility ending with arranging that they be paid up to date. Formerly (happily, this state of affairs persists still in some regions), when the traveller went along with his carriers, he observed directly those who failed and generally got to know the cause of failure; by "passing the time of day" with his people and so getting to know (and to be known by) them, he came to secure a considerable amount of their confidence, with the result that they were apt to come to him with their troubles and so he could hardly fail to observe the common ailments of the road. Helminthic invasions make up a great part of the ailments of the road, and observation of them on the road generally leads to minute inquiries at the daily halts. It is in the course of

cross-country journeys made by daily marches at the same pace as the carriers, that most knowledge of the common ailments of the indigenous Natives is obtained and it cannot be repeated too frequently that the indigenous Natives are the people of the country.

The Hospitals, from the most highly equipped to the most primitive, are situated in townships and other directly administered settlements: at those places the people are, for all practical purposes, either imported aliens or Natives who cannot be said to represent the people of the country; they come readily to the Hospitals for medical aid; and the stimulus which prompts the observer to go out into the highways and bye-ways in search of clinical materials, is largely eliminated from the daily routine of the busy—and in these latter days, often over-worked—medical officer.

The result of all this is, that although the ordinary returns constantly show much of interest and much of progress, the interest is local and the progress is parochial: the great body of the people is left untouched. Of course, in such a rapidly developing country as Nigeria is, those directly administered centres must go on increasing and consequently, so long as the present policy is persisted in, the Medical Staff must become progressively more and more a garrison staff. Formerly, the ordinary directly administered settlement afforded medical statistics which could be accepted as typical of the country, but this is no longer the case: it is only at such settlements that anything approaching regular inspection of meat is effected; it is only there that water-born diseases are immediately recognised, and prevented, and it is there only that disease once recognised is retained under observation until it has been eliminated. In short, just as in England rural economy suffers from being regarded too exclusively through urban spectacles, so in Nigeria the sanitary conception of the country generally is apt to be obscured from being looked at through the glasses of the settlements. This source of fallacy must endure so long as a material part of the personnel of the Medical staff is not constantly on circuit.

The helminthic diseases have been gone into in detail in previous reports; an exposition of them here would appear to be dangerously like vain reiteration, and the well-known extensive dissemination of ankylostomiasis is sufficient to support the thesis.

(III).—GENERAL MEASURES.

44. In the townships, general measures are largely employed by the individual occupiers themselves by virtue of the obligations imposed upon them by Ordinance, Rule and Regulation. Such obligations cover the sanitation of houses and compounds and of the thoroughfares on which they abut, together with the disposal (or regular, systematic collection for disposal) of their own refuse; the remaining measures are applied by the Local authority. In settlements smaller than townships, individual action takes even a larger part, but in any case amicable local arrangements are made, not unlike those made in villages at home. It is when necessary measures become so general as to the business of the community in general and not that of anybody in particular, that difficulty is experienced; the sanitary economy of an African settlement is necessarily concerned with a very much greater surrounding area than is the case with sanitary economy in temperate climates; this is where expense comes in, and the present reporter has never known a township or station at which the general sanitary expenditure necessary has been within the visible means of the Local Authority.

Away from directly administered areas, such measures are secured partly by customary Native practice and partly in consequence of stimulation of the Native Administration, by their European advisers: in some places, general measures are scarcely applied at all.

Clearance of Bush, Undergrowth, etc.

45. When external trade is good (it is not good now; but it is better than it was during the latter part of the period covered by the last report), the demand for local produce increases in the townships and settlements: this means that cultivation becomes more intensive in their extra-peripheral regions and cultivation on their neutral zones being as a rule prescribed, quite a considerable amount of such clearance is automatically effected without expense to the authorities concerned. Nevertheless, where prison labour is not plentiful, such clearance is often effected with considerable difficulty in consequence of narrow means. The methods employed have frequently been described before, and need not be dwelt on here.

46. *Disposal of Refuse.*—Despite inadequate means, the establishment of refuse destructors was increased during the year: this was the case chiefly in those moist regions nearest the coast, where they were most necessary. It is the irony of fate, that it is in those regions where effective incineration is possible without specially constructed incinerators that disposal by simple burial is most effective.

47. *Sewage Disposal and Conservancy.*—This form of activity continues to be effected as described in former reports. The establishment of faecal incinerators was slightly increased during the year, and in situations where the population is dense, where the soil is water-logged, and where access to the sea, or to rivers of permanently large volume, is difficult (such situations constitute the great majority), the increase of such appliances is an affair of increasing urgency but, unfortunately, the means in sight is not commensurate with the urgency.

48. *Drainage.*—During the year the system of permanent, open drains was extended at Lagos, at Calabar, and at Port Harcourt and to a negligible extent, at some other places. In other respects, drainage and the maintenance thereof remains as described in former reports. Some reforms which it had been hoped would have been effected long ere now, still remain problems of the future: neither Government nor sanitary authorities can find the necessary resources where they do not exist. Nevertheless, defective drainage leads directly to so much nuisance and individual discomfort, that here if in no other direction, general delict stands a chance of being largely made good by individual effort.

49. *Infectious Diseases Hospitals.*—There is nothing to add to what was reported on this subject in the last report. A forward move in the provision of such necessary institutions is a clamant necessity, and will be called for urgently so soon as increasing resources make it possible.

50. *Sanitary Inspections (including Food Inspection), Markets and Slaughter Houses.*—Sanitary inspections were slowly but steadily extended during the year: as a matter of fact, in certain areas the return to full ante-bellum activity in this direction made some worthy people who had forgotten it regard it as somewhat vexatious. Within the Southern Provinces, the Staff of African Sanitary Inspectors was quite as large as the amount of European energy available was able to supervise: this was not the case within the Northern Provinces; but there also, steady improvement was maintained throughout the year. That was set forth in the last report in this connection and gave a very fair picture of affairs as they stood at the end of the year under review.

Food Inspection is carried out very effectively at Lagos: there, the machinery for the purpose is much more complete than it is (or can be for years to come) at any other centre in the Colony and Protectorate. The fact that cattle-plague alone constitutes a more or less chronic problem, shows the necessity for closer cooperation of the Sanitary, with the Veterinary Department, than has hitherto been possible: this desideratum is largely a matter of increase in the personnel of each of these departments. This must not be read as a plea for increasing the personnel of any department to an extent incompatible with the financial resources of the country. But it should be read as a reminder that it is futile to expect food (or any other) inspection in a country with the narrow means of Nigeria to be anything like commensurate in efficiency with that justly expected in wealthy England. Braxy is just as popular, and its sale and consumption quite as frequently elude the vigilance of the authorities, in Nigeria, as is the case in certain countries and districts of Great Britain. The extension of permanent booths at various markets was effected during the year and still more extensive good work was overtaken in the orderly arrangement and adequate repair and renewal of the temporary booths. Much however remains to be accomplished, and although means be inadequate for the present, there are not lacking signs of returning prosperity which warrant hope for performance in the not remote future. A new slaughter-house had been completed by the end of the first quarter at Port Harcourt; the end of the year saw it not yet occupied because sufficient water could not be found for the effective running of it although strenuous attempts were being made to overcome the scantiness (due to the shrinkage of the water in the wells) of the available water-supply. The erection of a new slaughter-house at Enugu was sanctioned. The butchery of meat is not as a rule well done in Nigeria outside of the premises of the Nigerian Cold Storage Company Limited, which as already mentioned, maintains cold storage depôts at Lagos, at Calabar, and at Port Harcourt. This is truer of carcasses of cattle than it is of those of sheep. Swine and goats are also slaughtered (the former, in non-Mohammedan regions); but the consumers of the flesh of these animals are not critical of the butchering of it. Outside of the cattle countries, the flesh of cattle is not often inviting: where not carried by rail, the animals are apt to be overdriven, and often emaciated in consequence of defective feeding, and in many cases of having contracted trypanosomiasis en route, and the flesh is liable to be lacking in fat, dry, and insipid. In the absence of general cold storage, the flesh of cattle would be at once more inviting and more wholesome, were it salted down, pickled, dried or otherwise preserved, in the country of origin, before export. Many of the cattle and other live-stock driven down country for slaughter follow routes but little frequented by Europeans; of those animals a large portion sicken by the way and are killed to save their lives so to speak—some of them die without the performance of this ceremony; their flesh cannot be otherwise than unwholesome, but the Native trader being an economist who wastes nothing, sells every ounce of it for consumption. No system of food inspection practicable in Nigeria can stop this. Of course, such undesirable practice is seldom if ever followed in directly administered areas, because it is not permitted therein, and as a rule the machinery for its prevention is more or less adequate; but it is widely followed elsewhere, which means that the genuine inhabitants of the country are the people whose health is menaced thereby.

51. *Regulation of Buildings.*—This matter received much attention; unfortunately, the scope for the bestowal of such attention was limited in consequence of building operations everywhere having been restricted by absence of mercantile prosperity. The question of overcrowding of buildings and site-areas within the non-European Reservations of Townships, principally due to the setting-up of institutions which are common lodging-houses in everything but name, which is continually going on, was never lost sight of, and the year ended with

the envisaging of rules and regulations to be made under existing ordinances, for the satisfactory tackling of the problem. The increasing local production of lime and burning of bricks, together with the cheapening of imported permanent building materials, will render the regulation of buildings a much easier problem to solve. Little difficulty is experienced now so far as the European Reservations are concerned, for therein, the buildings erected are permanent buildings; the erection of buildings cannot be proceeded with before the consent of the Local Authority has been obtained, and the Local Authority may not consent without the acquiescence of the representative of the Sanitary Department authorised to signify acquiescence. It is different in the case of the non-European Reservations: therein, the consent of the Local Authority has to be obtained likewise, but the buildings erected need not necessarily be permanent buildings, and an individual will risk putting up a temporary building by stealth which he knows he will be called upon to pull down if he be found out, when he will not risk putting up an expensive permanent one.

52. *Town-Planning.*—The setting-up of the Town-Planning Committee has already been referred to as perhaps the most important forward move effected during the year. Problems for consideration by it are steadily accumulating; some of these will be ripe for its attention at an early date, and as it will not entertain any proposal which is not the fruit of well organised team-work, the consequences of its decisions must be sound and far-reaching. In view of this move forward, it does not seem profitable to enlarge on the subject of Town-Planning at this stage: accomplished and current achievement are likely to make this section of the report an increasingly bulky one as the years roll on.

53. *Water-Supply.*—Great improvements in the water-supply were effected during the year at various places of secondary importance, notably at Nsukka, at Ikot-Ekpene and at Awgu. At several centres of greater importance, prearranged and accepted schemes of years' standing retained the status of unrealised aspirations, notably at Kano, at Zaria, and at Kaduna. At other places, difficult problems had already been foreseen and were being tackled: such a place was Enugu. At other places again, as mentioned in connection with the new slaughter-house at Port Harcourt, established water-supplies had partly failed, but steps were being taken with a view to a satisfactory compounding for the failure. Within his own memory the present reporter can recall in a considerable British town an occasion on which the water-supply derived from established modern reservoirs, having partly failed, the City fathers seriously considered the expediency of reopening urban wells which had been closed for a century, and the situations of which were accurately known to local antiquaries alone, and all this after knowledge of the efficacy of the tea-kettle in the prophylaxis of cholera had become general throughout western Europe. No expedient quite so reckless as that one would be entertained in Nigeria to-day.

54. It is impossible to leave such subjects as preventive and general measures in Nigeria without mentioning that within less than a generation, the routine measures generally applied for the conservation of the public health have evolved from a few isolated efforts prompted by individual initiative into a methodically planned and officially prescribed system. Within the period mentioned, knowledge of the part played by insects in the dissemination of disease has advanced by leaps and bounds: within the present century the assertion made by the nomadic cattle people (that the form of horse and cattle sickness now known as trypanosomiasis was due to the drinking of the water of certain streams which might be forded by night, when the animals would not drink with impunity), was accepted at its face value by all concerned—including the members of the Medical staff. Leading

authorities regarded Beri-Beri as a place disease and the second decade of the century had come before it was recognised as simply symptomatic of a known food deficiency. Additions to knowledge and elimination of fallacies such as those alluded to here (they are but samples of many which might be quoted), could hardly fail to be followed by the planning and application of preventive and general measures in defence of the public health, in a country which had in its service an organised medical staff. In addition to this, at what for Nigeria was the beginning of things, the Colonial part of the Empire had, presiding over its destinies, a great statesman who, inter alia, had the prescience to grasp the profound economic effects which modern discoveries in tropical medicine and in the sciences allied thereto were bound to have on the tropical colonies, to realise the wisdom of establishing schools of tropical medicine and to act on it, to make it compulsory for the members of the organised tropical colonial medical staffs to seek instruction at these schools, and to make sure that when those medical officers returned to their respective colonies their reasoned recommendations should not be regarded as merely academic opinions.

Nigeria was happy in her early administrators (to mention them by name here, were impertinent), under whose aegis the members of the medical staff required little extra-colonial backing when proceeding on their lawful occasions. But apart from this, the members of the medical personnel, when they sought counsel (from the Fathers of Tropical Medicine who presided over the schools) never sought it in vain but returned to their duty fortified with the assurance that they were going on sound lines. In addition to these advantages, the medical officers (as touched on before earlier in this report) in devising public health procedure, had disciplined communities under British officers to begin with. Among such communities it was not difficult to arrange for the establishment of systematic routine; such communities grow into orderly cantonments run on sound sanitary lines, and on the same sound lines the cantonments in their turn eventually expanded into townships, in which the original military came to constitute but a part (often a very small part relatively) of the total population. The newcomer to Nigeria has very little idea of how greatly those concerned with the planning of new towns are indebted to the traditions erected by the old cantonments, for the facility with which they are able to set about their work to-day; it was the old cantonment authorities who broke the evil practice of setting up Nigeria settlements by haphazard and established precedents which made European segregation and other essentials of modern town-planning the comparatively simple matters they are. In touching upon the progress made, this is not claimed as the exclusive work of the officials of the Government: all sections of the community, non-official as well as official, African as well as European (some more, others less), have played their part, while the activities of the destructive critic, and even those of the constitutional obstructionist, have not been without their value. To the observer who has been in the country, since the beginning of the century, the level of advancement gained appears a very solid achievement when he compares it to the slow, and often microscopic progress which was generally all that could be reported for any individual year, and it seems to warrant an optimistic attitude towards the second quarter of the century.

As already suggested, no medical or sanitary worker can look back with complacency on what has been done for the indigenous population: in this respect, such a worker must regard his military and administrative colleagues with envy, for it has been their privilege to put an end to internecine wars and to slave-raiding, to teach the indigenous Native what is for him in many ways a better way of life and to show him certain additional and improved methods of husbanding and making the most of his resources, and to make the country a safe and prosperous one to live in. But after all, any new protecting power must make good its footing, as a necessary preliminary to spreading itself

about, and it can hardly be disputed that for this reason the prime duty of the medical and sanitary staff has necessarily consisted hitherto in the conservation of the fitness of the civil and military forces of the protecting power, together with that of their necessary following, for the work expected of them. But if it has not come already, the time is rapidly coming when it will behove the members of the medical and sanitary services to be of the country as well as in the country.

There is great, fruitful and highly attractive work in store for those members of the Staff who, freed from Station bonds, are destined to be posted to circuit work in the great indirectly administered regions: no bit of genuine work which any of them can do, whether it be directed to the mass, to the individual, or to the environment of all, can fail to be of service to the community of indigenous Natives—let it be said again—the people of the country, the people whose rightful heritage the country is. The best of them are, and always have been, genuinely receptive of sanitary instruction and willing to act upon it. Education is steadily permeating their humbler strata and the time is ripe for furnishing them with medical and sanitary service in at least the same proportion as they enjoy already political and educational service devoted to themselves alone.

(B).—Measures taken to Spread Knowledge of Hygiene and Sanitation.

55. There is a very thorough curriculum of training for young men who aim at permanent appointments as professional sanitary inspectors in the Sanitary Department in the Southern Provinces. This carefully planned scheme dates back to the days of Southern Nigeria as a separate Administration; it was a standing institution at the date of the administrative amalgamation of the two Nigerias and when at last true amalgamation of the Medical and Sanitary Departments of the Northern, and of the Southern Provinces, respectively, was accomplished, it had been a smoothly running concern for a considerable number of years. Approved youths are admitted to vacancies as Sanitary Inspectors-in-Training; and the same educational standard is required of them as is required of candidates for the appointment of Probationer in the general clerical service. The curriculum is made up of courses of general scholastic, theoretical, and practical training. The scholastic part of the training is received at King's College, Lagos. The theoretical part includes instruction in elementary chemistry, anatomy and physiology, as well as in purely sanitary science and practice: this part of the training is conducted in classes held during each year by the Senior Sanitary Officer who is acting for the time as Medical Officer of Health for the Port and Town of Lagos. The practical part is conducted in Lagos to begin with, where the youths practice performing the duties of Sanitary Inspector under the tuition and supervision of the acting Medical Officer of Health and of the Senior African Sanitary Inspectors; later, if they shape well and prove likely to be suitable candidates for permanent employment as Third Class Sanitary Inspectors, they are sent out for the remainder of the probationary period to work in the districts as acting Sanitary Inspectors under the local Medical Officers of Health who report on them. Their work and conduct having been satisfactory, they are, subject to passing the examinations for the testing of their proficiency, appointed Third Class Sanitary Inspectors on the permanent, pensionable staff, as vacancies occur. The probationary period is of three years duration. The question is at present under consideration whether or not it be wise and expedient to reduce the probationary period from three to two years. There are arguments of weight on both sides. "The Reflexes of the Coast African are slow": this is the considered dictum of one of the most reflective and most experienced officers of the West African Medical Staff known to the present reporter. Abbreviation of the probationary period might save considerable expenditure of time and money on candidates in training who in the

event would have to be discarded, however long their time on probation might have been; on the other hand, it might result in filling the service with smartly plausible, superficial parrots. It is very difficult to teach the Coast African how to observe common things; it is still more difficult to teach him how to make true deductions from the facts which he has observed; but once this difficulty has been overcome, the slow plodder often becomes a more valuable worker than does the youth whose principal asset is superficial smartness in passing examinations. Candidates for Sanitary Inspectorships complain that they are at a grave disadvantage, compared to candidates for the general clerical service: they maintain that they must possess educational qualifications identical with those required of clerical candidates; that the latter may be given appointments in the general clerical service (permanent) after a probation of one year; that they must pass a probationary period of three years, in consequence of the necessity for obtaining special qualifications in addition to the ordinary scholastic ones; that the pay is the same for corresponding ranks in the respective services, and that they (the sanitary candidates) are penalised on account of possessing special qualifications. There is a measure of truth in these representations: nevertheless, in the opinion of the present reporter, no young man should be appointed to the permanent staff before having passed a probationary period of three years, if for no other reason than that character and reliability cannot be estimated with probable correctness in less. There is reason to hope that even the semblance of unfairness may be successfully eliminated without shortening the period of probation. Some most competent and reliable sanitary inspectors are turned out by this course of training, but even under so naturally gifted and painstaking a teacher as is Dr. Clark who conducted the classes during the greater part of the year under review, some of the youths show themselves hopelessly dense and a certain number of those who qualify and finally receive permanent appointments prove themselves in the end more ornamental than useful. Promotion to the grades above that of Third Class Inspector is decided by competence, tempered only by seniority. Not all of the Sanitary Inspectors exercise an educative influence over the people whom they work among: some of them do so.

In the Northern Provinces, a certain number of well-born youths who have passed through the provincial Government Schools have been taken on for some years past for training under the sanitary officers (latterly under the European Sanitary Inspectors also). On completing their course of training, longer or shorter according to their capacity, those youths who do not speak English although they read and write in their own vernacular, and often in Arabic as well, are sent back to act as Sanitary Inspectors under their own Native Administrations. On returning to work, each under the Native Administration under which he was born and to the ruling family of which he may be related (one of those under training during the year was the son of a ruling Emir), his sphere of activity is not confined to the headquarter town or capital; it covers the entire Sarauta, as the emirate or principality is called in Hausa; he exercises general supervision over all sanitary functionaries of the towns and districts and he enjoys the opportunity, of which he not uncommonly avails himself, of doing much educative work. These Native Administration Inspectors are, all of them, taught how to practise vaccination and do practise it considerably but following the Northern custom, none of those vaccinations is returned in the general vaccination statistics as successful, unless it have been verified by a medical officer. They are, all of them, influential advocates of vaccination. In the course of the year His Excellency the Governor ruled that young men educated in the Northern Provincial Schools who did not speak English should be eligible for appointment as Sanitary Inspectors-in-Training, provided they passed in Hausa an educational test equivalent to that required from English speaking candidates; that on

completing their probationary period and having been found competent, they should be admissible to the permanent staff as Third Class Inspectors but that promotion to the higher grades should be conditional on their acquiring the English language. There will be little difficulty in fulfilling this last condition, especially now that the results of the teaching of English in the secondary schools are beginning to make themselves felt. This policy will gradually make available for service as Sanitary Inspectors in certain Northern Provinces townships a class of man urgently required therein.

As stated in former reports, sanitation constitutes one of the subjects in the curricula of all the Government Schools in both sets of Provinces. Also, reasons have been given therein for regarding lectures as unlikely to be productive of any practical good. The sanitary rules and regulations to which the inhabitants of the townships are made to conform, especially when they are dealt with magisterially for breaches thereof, have a very materially educative effect and go a long way to spread knowledge of what the law regards as sanitary righteousness. It is at this point that the subject of prosecutions may be alluded to most appropriately. Prosecutions have an educative effect, provided they be brought before legal authorities who do not treat lightly breaches of sanitary law, rule and regulation: otherwise the effect is neither educative nor corrective; for the importance of sanitation is minimised in the eyes of the people and the sanitary inspectors (especially when they have plenty to do) get tired of invoking unsuccessfully the assistance of the law and losing their keenness in this direction, are apt to give up taking legal proceedings against offenders. In the great Native centres away from townships and in the country districts generally, much the best educative and instructive work is done by sanitary officers on tour and by medical officers on circuit. Homely talks with the country folk on the spot, dealing with their water-supplies, the care of their food, the cleanliness of their houses and compounds, the care of their children, decency in their arrangements connected with the primary calls of nature, and the like, are productive of much practical good.

The educational effect which attends conferences of the sanitary officers with the Native magnates, when it becomes necessary to take administrative measures on occasion of visitations of epidemic disease menacing the territories concerned, is great and lasting, not on the magnates themselves alone but on their people as well. Nothing could do so much to hinder the spread of knowledge of Hygiene and Sanitation among the common people as would the idea that their own big men regarded sanitary measures lightly. For this reason, the sanitary officers cannot direct too much of their energies towards the cultivation of friendly intercourse with the magnates, with a view to persuading and convincing them of the efficacy of sanitary measures, which means their ultimate enlistment in the cause. Led by their own magnates, the people will take as readily to sanitary, as when newly converted they will take to Mohammedan, ceremonial. In order that they may be in a position to exercise such influence to the greatest advantage, the sanitary officers should enjoy such high standing in the Service as may help them to carry adequate weight with them. In their own sphere, for example, they must possess an official rank senior to that of the medical officers to whom when on tour they carry counsel and support. It is useless, to cite against this, the case of a District Officer who may be the immediate adviser resident at the headquarters of an emir; for the emir knows very well that the District Officer who may be in residence at his centre, is only the mouth-piece of the Resident of the Province in which the emirate is situated, whom he (the emir) knows quite well in consequence of seeing him regularly. It is different with the sanitary officer: he must be of higher rank than that held by the district medical officers; for were he not, no Native could see the reason why he was coming round on tour. It is useless to explain to the

Native authorities that the sanitary officer is only the mouth-piece of the Director of Medical and Sanitary Services, for they do not see the Director as they do the Resident, and they do not understand what the mouth-piece of an abstraction is.

It has already been pointed out at the beginning of this report that the additional senior sanitary officers provided for in the sanctioned Estimates but not appointed, have been cut out: and not this alone; but that it has been further ruled that one of the two vacancies created in this rank by recent promotions of the incumbents shall be filled by a Medical Officer of Health, and not by a Senior Sanitary Officer. The present reporter cannot regard this as otherwise than a retrograde step. It is true that the office of Medical Officer of Health for the Port and Town of Lagos has been and still is filled by one of the Senior Sanitary Officers: it is equally true that in any other colony a great centre such as Lagos is, would have two Medical Officers of Health—one for the Port, and the other for the Town—and it is also true that the double-barrelled duty now being done at Lagos by a senior sanitary officer could be performed by none other than an officer of exceptional energy and ability, possessed of ripe experience. The work expected from the senior sanitary officers in Nigeria is no more identical with that of Medical Officers of Health than is the whole only equal to a part. To be equal to the performance of their proper functions, the senior sanitary officers must possess ripe and wide experience; they must have wide knowledge of the country and its people and its institutions, and intimate knowledge of various typical places and people in it, and they must carry such weight as may serve to make sure that their tours of inspection, counsel and instruction, shall not be barren processions. Such qualifications can hardly be justly demanded from such a local officer as a Medical Officer of Health for a town or a port, is supposed to be.

Formerly, there were two sanitary officers (now designated senior sanitary officers, although then, one of the two alone was so designated) in the Northern Provinces, and an additional one had been sanctioned, but not appointed: now there is only one available for duty there, and furthermore, in consequence of the departure of the two promoted officers, for the first time in the history of the Sanitary Department, it will be necessary to entrust the sanitary interests of the Northern Provinces to a senior sanitary officer who is ignorant of the Hausa language—the lingua franca of those great provinces whose combined area equals that of twice the British Islands with a third England thrown in.

Throughout the War, necessity demanded very material neglect of its own proper functions by the Sanitary Departments (there were then two separate sanitary departments); not throughout the War only, but for some time thereafter, the northern department had to exist as a mere skeleton, and was obliged practically to efface itself for prolonged periods, and not until the Spring of 1920 did sanitary activity in Nigeria regain its ante-bellum strength. The result of this was that there was inevitably a great accumulation of sanitary arrears. Since then strenuous efforts have been constantly directed to the overtaking of arrears and to the resumption of normal progress.

(C).—RECOMMENDATIONS FOR FUTURE WORK.

56. In light of the representations made in the previous paragraphs, it must be evident that the question of ways and means will have to be subjected to careful reconsideration before recommendations for future work which are worthy of receiving serious attention can be put forward. The last of the seven recommendations for future work put forward in the previous report, is germane to this. The present scribe has always held strong views touching paper work

in the sanitary offices becoming so voluminous as to curtail the normal landward activities of the sanitary officers. But he is wishful to record here his appreciation of the hard essential office work overtaken by Dr. Foy, the Assistant Director of Sanitary Service, since the final amalgamation of the two sets of Medical and Sanitary Services was effected. In order that the united Sanitary Departments might achieve mutual adjustment, much laborious clerical work had to be carried through by somebody; Dr. Foy undertook this work with meticulous care; he devoted to it his wide knowledge of both sets of provinces together with his keen grasp of the minutiæ of office routine; he succeeded admirably; and to him more than to anyone else, with the exception of the Director of the Medical and Sanitary Service himself, is due the smoothness of running of the Sanitary Department as it is constituted to-day. With the exception of the last of them, which for obvious reasons it would be futile to repeat, all the recommendations made in the previous report might well be repeated in extenso now. Since they were put forward, they have been carried out in so far as it has been possible for them to be given effect to by the sanitary officers "off their own bat," so to speak.

Bearing this in mind, a few additional recommendations may be put forward here: they are not ambitious, but they are practical. They are these:—

(1) A tour of the line of country being followed by the northern extension of the eastern portion of the railway system, from Enugu, across the Benue, at the Munshi Narrows to Kukuri near Kaduna, where the junction of the two divisions of the system is to be effected: to be undertaken by one of the senior sanitary officers.

(2) To make every endeavour to have the completed plans of the townships concerned ready for submission to the Town Planning Committee, when the proper time for doing so shall have come.

(3) To continue the practice of revisiting the seats of old outbreaks of human trypanosomiasis, with a view to the study of the after-history thereof. This practice was resumed, in the case of the Eket region, by Dr. Orpen, Senior Sanitary Officer, what time he was touring the eastern region of the Southern Provinces last year. A copy of the interesting report submitted by Dr. Orpen should be appended hereto, were it not for the fact that the gist of it had already been published elsewhere.

(4) To give special attention to the Northern Provinces because of the misfortune which has overtaken them through losing the services of Dr. Inness who has had immediate charge of them so long, and those of Dr. Pirie whose promotion now renders it impossible to pick up the threads there again: to secure, if possible, at least one Hausa-speaking officer to act as Senior Sanitary Officer thereof.

(5) To devote some special attention to the new British mandatory territory in Kameruns.

(6) If possible, to despatch one of the Senior Sanitary Officers on tour through Bornu, following the great western trade-route on to Illo; thence to Birnin Kebbi, Argungu and southward therefrom to Dabai; and returning thence *via* Yelwa and Bussa to Jebba. This tour would take in, at Zuru in the sarauta of Dabai, the most recent focus of Cerebro-Spinal Meningitis in epidemic form.

M. CAMERON-BLAIR,
Deputy Director, Sanitary Service
31.12.1922.

TABLE VI.

RETURN OF DISEASES AND DEATHS OF EUROPEANS FOR THE YEARS 1920, 1921, 1922. NIGERIA.

Diseases.	Remaining in Hospital at end of 1919.	1920. In Patients. Total Admissions.	1920. Out Patients. Total Admissions.	1920. Deaths.	Remaining at end of 1920.	1921. In Patients. Total Admissions.	1921. Out Patients. Total Admissions.	1921. Deaths.	Remaining at end of 1921.	1922. In Patients. Total Admissions.	1922. Out Patients. Total Admissions.	1922. Deaths.	Remaining at end of 1922.
Infective Diseases.													
Beri-Beri	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro-Spinal Fever	...	1	3	...	...	...	...	...	...	...	1	...	...
Chicken Pox	...	...	...	...	...	1	...	...	...	...	...	...	...
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...
Dengue	...	3	8	...	...	1	2	...	...	2	6	...	...
Diphtheria	...	...	...	...	...	...	...	...	...	...	...	...	...
Dysentery :—													
(*a*) Amœbic	...	34	68	1	1	8	30	...	...	37	47	1	...
(*b*) Bacillary	...	3	2	...	...	...	2	...	...	2	2	...	...
(*c*) Type not determined	...	9	4	...	1	13	14	...	...	2	6	.	...
Endocarditis-infective	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric	...	2	3	...	...	4	2	...	..	3	2	...	...
Erysipelas	...	...	4	...	...	...	3	...	...	1	...	1	...
Gonorrhœa	...	2	111	...	...	1	112	...	...	2	109	...	...
Influenza	...	5	27	...	1	1	15	...	...	5	93	...	...
Kala-Azar	...	...	...	...	...	...	...	...	...	...	...	...	...
Leprosy :—													
(*a*) Nodular	...	...	...	...	...	...	...	...	...	...	...	...	...
(*b*) Anaesthetic	...	...	...	...	...	...	...	...	...	...	...	...	...
Malaria :—													
(*a*) Tertian	...	...	3	...	...	9	5	...	...	44	68	...	...
(*b*) Quartan	...	...	1	...	...	...	...	...	...	...	...	...	...
(*c*) Aestivo-autumnal	6	352	1,011	2	5	287	957	1	4	256	824	6	3
(*d*) Chronic	...	8	6	...	...	5	14	1	1	1	48	...	...
(*e*) Type not determined	...	...	2	...	...	...	4	...	...	...	49	...	...
Blackwater Fever	2	20	13	8	2	27	14	10	...	15	13	2	1
Measles	...	...	1	...	...	...	...	...	...	2	5	...	...
Papataci Fever	...	...	2	...	...	...	...	...	...	...	1	...	...
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...
Pneumonia	...	2	3	...	...	7	21	1	...	4	8	4	2
Pyrexia of uncertain origin	...	3	15	...	...	1		1	...	2	8	...	...
Rabies	...	...	...	...	..	...	...	...	...	...	...	...	...
Relapsing Fever	...	1	...	...	...	...	...	...	...	...	...	...	...
Rheumatic Fever	...	1	1	...	...	...	2	...	...	1	7	...	...
Septicaemia	...	...	3	...	...	...	...	...	...	1	...	...	1
Small-Pox	...	1	...	1	...	...	...	...	...	...	...	...	...
Syphilis (*a*) Primary	...	4	23	...	...	23	22	...	1	2	21	...	...
(*b*) Secondary	...	1	11	...	...	...	2	...	...	21	9	...	...
(*c*) Inherited	...	...	...	...	...	...	...	...	...	...	...	...	...
Tetanus	...	...	...	...	...	...	...	...	...	...	...	...	...
Trypanosomiasis (Sleeping Sickness)	..	1	...	...	...	...	2	...	...	...	2	...	...
Tuberculosis	...	4	4	1	...	2	...	...	...	5	6	2	1
Undulant Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping Cough	...	...	...	...	...	...	...	...	...	...	...	...	...
Yaws	...	...	...	...	...	...	...	...	...	...	...	...	...
Yellow Fever	...	...	...	...	...	...	...	...	...	1	...	1	...
Other Diseases	1	6	14	...	1	4	19	1	...	5	21	...	...
Intoxications.													
Alcoholism	...	6	13	1	...	7	6	1	...	4	13	...	...
Morphinism	...	...	1	...	...	...	...	...	...	...	...	...	...
Other Intoxications	...	...	1	...	...	...	1	...	...	1	...	...	...
Carried forward	9	469	1,358	14	11	401	1,258	16	6	419	1,369	17	8

TABLE VI.—RETURN OF DISEASES AND DEATHS OF EUROPEANS FOR THE YEARS 1920, 1921, 1922—*continued.* NIGERIA.

Diseases.	Remaining in Hospital at end of 1919.	1920. In Patients. Total Admissions.	1920. Out Patients. Total Admissions.	1920. Deaths.	1921. Remaining at end of 1920.	1921. In Patients. Total Admissions.	1921. Out Patients. Total Admissions.	1921. Deaths.	1922. Remaining at end of 1921.	1922. In Patients. Total Admissions.	1922. Out Patients. Total Admissions.	1922. Deaths.	Remaining at end of 1922.
General Diseases.													
Brought forward ...	9	469	1,358	14	11	101	1,258	16	6	419	1,369	17	8
Anæmia	1	18	175	...	...	14	191		...	15	176	...	1
Anæmia-Pernicious	...	...	1	...	...	...	...	...	...	...	3	...	...
Diabetes	...	1	...	...	...	...	...	...	...	...	1	1	...
Exophthalmic goitre... ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gout	...	1	7	...	...	1	13	...	...	...	2	...	...
Leucocythæmia	...	...	...	...	...	...	...	...	...	...	...	...	...
Lymphadenoma	...	...	...	...	...	...	...	...	...	...	...	...	...
Myxœdema	...	...	...	...	...	...	...	...	...	...	...	...	...
Purpura	...	...	1	...	...	...	...	...	..	...	...	...	...
Rickets...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scurvy	...	...	...	...	...	...	2	...	...	...	...	...	...
Other Diseases	...	...	36	...	...	7	57	...	...	3	91	...	...
Local Diseases.													
DISEASES OF THE NERVOUS SYSTEM.													
Sub-section 1.—Diseases of the Nerves:													
Neuritis		12	26	1	...	13	15	...	...	13	29	...	2
Meningitis		1	1	1	...	1	...	...	...	1	2	1	...
Myelitis		...	...	...	...	...	...	...	...	...	...	...	...
Hydrocephalus		...	...	...	...	...	...	...	...	...	...	...	...
Encephalitis		...	...	..	...	...	...	...	...	...	...	...	...
Abscess of brain...		...	...	...	...	...	...	...	...	...	...	...	...
Congestion of brain		...	1	...	...	...	1	...	...	...	...	...	...
Other Diseases		5	47	1	...	4	38	1	...	14	28	...	1
Sub-section 2.—Nervous Disorders and Diseases of Undetermined Nature:—													
Apoplexy		...	...	...	...	1	...	1	...	1	1	1	...
Paralysis		1	...	...	...	1	...	...	...	1	1	...	...
Chorea		...	...	...	...	...	...	...	..	...	...	...	...
Epilepsy		...	1	...	...	1	...	...	...	...	1	...	...
Neuralgia		4	69	...	...	...	89	...	...	1	64	...	...
Hysteria		...	5	...	...	1	4	...	...	...	5	...	...
Other Diseases		10	83	...	...	18	77	1	...	19	45	...	...
Sub-section 3. Mental Diseases:—													
Idiocy		...	...	...	...	...	...	...	...	...	...	...	...
Mania		2	1	...	...	...	...	...	...	1	...	...	...
Melancholia		...	...	...	...	...	...	...	...	2	...	1	...
Dementia		...	...	...	...	...	...	...	...	...	...	...	...
Delusional Insanity		...	...	...	...	4	...	...	...	...	...	...	...
Other Diseases		2	4	...	...	1	...	...	...	7	3	...	...
DISEASES OF THE EYE.													
Conjunctivitis		2	36	...	...	...	44	...	...	2	35	...	...
Keratitis		...	3	...	...	1	4	...	...	...	1	...	...
Ulceration of cornea		...	3	...	...	...	3	...	...	...	...	...	..
Iritis		3	5	...	...	3	4	...	1	...	...	...	...
Optic neuritis		...	...	...	...	...	...	...	...	...		...	...
Cataract		...	3	...	...	...	...	...	...	...	1	...	...
Other Diseases		2	7	...	...	...	25	...	...	..	25	...	...
Carried forward ...													

TABLE VI.—RETURN OF DISEASES AND DEATHS OF EUROPEANS FOR THE YEARS 1920, 1921, 1922– *continued.* NIGERIA.

Diseases.	Remaining in Hospital at end of 1919	1920. In Patients. Total Admissions.	1920. Out Patients. Total Admissions.	1920. Deaths.	Remaining at end of 1920.	1921. In Patients. Total Admissions.	1921. Out Patients. Total Admissions.	1921. Deaths.	Remaining at end of 1921.	1922. In Patients. Total Admissions.	1922. Out Patients. Total Admissions.	1922. Deaths.	Remaining at end of 1922.
Local Diseases– *contd.*													
Brought forward ...	...	...	...	...	...	...	...	...	...	...	...	...	...
DISEASES OF THE EAR.													
Inflammation	...	3	43	...	...	2	40	...	...	7	52	...	...
Other Diseases	...	1	72	...	...	1	63	...	...	1	79	...	...
DISEASES OF THE NOSE.													
Inflammation	...	..	6	...	...	...	22	...	...	2	6	...	...
Other Diseases	...	...	23	...	...	1	26	...	...	...	51	...	...
DISEASES OF THE CIRCULATORY SYSTEM.													
Pericarditis	...	1	1	...	...	...	1	...	...	..	1	..	...
Endocarditis	...	...	...	...	...	...	...	...	...	...	...	...	...
Valvular Disease:—													
(1) Mitral	...	1	12	1	...	2	6	...	...	5	9	1	...
(2) Aortic	...	1	2	...	...	1	1	...	...	1	...	...	...
(3) Tricuspid	...	...	...	...	...	...	1	...	...	...	...	...	...
(4) Pulmonary	...	1	1	1	...	...	...	...	...	...	...	...	...
Arterial sclerosis ...	...	2	...	...	...	1	2	1	...	1	...	...	...
Aneurism	...	...	3	1	...	...	...	...	...	...	...	...	...
Other Diseases	...	5	25	1	...	6	17	1	..	8	24	...	1
DISEASES OF THE RESPIRATORY SYSTEM.													
Laryngitis	...	2	37	...	...	1	12	...	...		1	...	...
Bronchitis	1	18	124	...	2	8	232	...	1	12		...	1
Broncho-pneumonia ...	...	...	33	...	...	1	...	...	...	...		...	...
Abscess of Lung ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gangrene of Lung ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Emphysema	...	...	...	...	...	...	...	...	...	...	...	...	...
Pleurisy	...	2	6	...	...	4	13	...	...	4	11	1	...
Empyema	...	...	...	...	...	1	...	...	...	...	...	...	...
Other Diseases	...	6	63	...	1	4	54	...	...	3	69	1	...
DISEASES OF THE DIGESTIVE SYSTEM.													
Stomatitis	...	2	23	...	...	5	11	...	...	...	20	...	...
Caries of teeth	...	1	129	...	...	...	105	...	...	3	83	...	...
Pyorrhœa alveolaris ...	...	...	19	...	...	...	12	...	...	1	14	...	...
Glossitis	...	...	4	...	...	...	5	...	...	...	7	...	...
Sore throat	...	2	37	...	...	...	40	...	...	...	68	...	...
Inflammation of tonsils	...	9	67	...	...	7	71	..	1	7	72	...	...
Gastritis	...	33	174	...	...	12	245	...	...	23	148	...	1
Ulceration of stomach ...	...	...	2	...	...	1	4	1	...	2	1	1	..
Hæmatemesis	...	...	1	...	...	1	...	...	1	2	1	..	...
Dilatation of stomach ...	...	1	1	...	...	1	1	...	1	1	...	...	1
Stricture of stomach ..	...	...	2	...	...	...	...	...	...	...	...	...	...
Dyspepsia	...	10	171	...	1	9	197	...	1	2	183	...	...
Enteritis	...	22	47	...	...	14	40	1	...	16	76	...	...
Appendicitis	.	4	11	...	...	7	4	...	...	6	12	2	...
Colitis	...	7	17	...	...	6	18	...	...	5	24	...	...
Ulceration of intestines	...	...	...	...	...	...	1	.	...	...	2	1	...
Sprue	...	...	...	...	...	...	...	...	...	...	...	...	...
Hernia	...	3	7	...	...	3	32	...	...	3	9	...	...
Diarrhœa	...	15	162	1	...	11	128	...	...	3	156	...	..
Carried forward ...													

TABLE VI.—RETURN OF DISEASES AND DEATHS OF EUROPEANS FOR THE YEARS 1920, 1921, 1922—*continued.* NIGERIA.

Diseases.	Remaining in Hospital at end of 1919.	1920. In Patients. Total Admissions.	1920. Out Patients. Total Admissions.	1920. Deaths.	1921. Remaining at end of 1920.	1921. In Patients. Total Admissions.	1921. Out Patients. Total Admissions.	1921. Deaths.	1922. Remaining at end of 1921.	1922. In Patients. Total Admissions.	1922. Out Patients. Total Admissions.	1922. Deaths.	Remaining at end of 1922.
Local Diseases—*contd.*													
Brought forward ...	...	...	...	...	...	...	...	...	...	...	...	...	...
DISEASES OF THE DIGESTIVE SYSTEM—*continued.*													
Constipation	...	2	83	...	...	1	54	...	...	...	43	...	...
Colic	...	2	39	...	...	5	35	...	...	3	34	...	...
Hæmorrhoids	...	6	37	...	...	4	40	...	...	9	34	...	2
Pancreatitis	...	...	2	...	...	...	1	...	...	1	4	...	...
Hepatitis—Acute ...	...	9	32	..	...	3	32	...	...	9	37	...	...
Abscess	...	3	1	1	...	...	...	...	...	2	...	...	...
Cirrhosis	...	1	...	...	...	1	1	...	...	...	...	...	...
Jaundice	...	6	3	...	1	4	5	1	...	6	10	...	...
Peritonitis	...	...	1	...	...	...	...	..	...	...	...	...	...
Ascites	...	...	3	...	...	...	...	...	...	...	...	...	...
Other Diseases	...	16	45	...	1	15	55	...	...	...	30	...	...
DISEASES OF THE LYMPHATIC SYSTEM.													
Splenitis	...	2	9	...	...	4	10	...	...	...	11	...	...
Inflammation of lymphatic gland	...	9	25	..	2	15	34	...	...	13	45	...	2
Suppuration of lymphatic gland	...	5	8	...	...	9	10	...	...	7	11	...	...
Lymphangitis	...	...	1	...	...	...	7	...	...	1	8	...	...
Elephantiasis	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases	...	1	5	...	...	1	...	...	...	...	...	...	...
DISEASES OF THE URINARY SYSTEM.													
Acute nephritis	...	2	6	...	...	2	6	...	1	1	...	...	...
Bright's Disease... ...	...	1	2	...	...	...	3	...	...	...	...	...	...
Pyelitis	...	...	...	...	...	...	...	...	...	...	...	...	...
Calculus	...	...	3	...	...	2	6	...	...	...	2	...	...
Renal colic	...	...	3	...	...	...	6	...	...	...	1	...	...
Cystitis	...	4	15	...	...	6	16	...	...	7	25	...	...
Vesical calculus... ...	...	...	...	...	...	2	6	...	...	...	...	...	...
Suppression	...	...	...	...	...	...	...	...	...	1	...	...	...
Hæmaturia	...	1	4	...	...	...	1	...	...	4	5	...	...
Chyluria	...	...	...	...	...	...	...	...	...	...	1	..	...
Other Diseases	...	3	3	1	1	4	11	...	...	4	10	...	...
DISEASES OF THE GENERATIVE SYSTEM.													
Male Organs:—													
Urethritis...	...	...	32	...	...	2	40	...	...	1	40	...	...
Gleet	...	...	5	...	...	...	2	...	...	...	7	...	...
Stricture	1	1	6	...	...	1	1	...	...	...	3	...	...
Prostatitis	...	1	12	...	...	1	5	...	...	...	...	...	...
Soft chancre	...	5	31	...	...	1	31	...	...	2	39	...	...
Condyloma	...	...	...	...	...	...	1	...	...	...	...	...	...
Inflammation of scrotum	...	...	...	...	...	...	1	...	...	...	...	...	...
Hydrocele	...	2	1	...	...	...	1	...	...	1	4	...	...
Orchitis	...	5	10	...	...	1	15	...	...	3	16	...	...
Epididymitis	...	3	7	...	1	2	10	...	...	1	4	...	...
Abscess of testicle ...	...	...	...	...	...	...	...	...	...	...	5	...	...
Other Diseases	...	9	12	...	1	4	7	...	...	7	2	...	...
Carried forward ...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE VI.—RETURN OF DISEASES AND DEATHS OF EUROPEANS FOR THE YEARS 1920, 1921, 1922—*continued.* NIGERIA.

Diseases.	Remaining in Hospital at end of 1919.	1920. In Patients. Total Admissions.	1920. Out Patients. Total Admissions.	1920. Deaths.	1921. Remaining at end of 1920.	1921. In Patients. Total Admissions.	1921. Out Patients. Total Admissions.	1921. Deaths.	1922. Remaining at end of 1921.	1922. In Patients. Total Admissions.	1922. Out Patients. Total Admissions.	1922. Deaths.	Remaining at end of 1922.
Local Diseases—*contd.*													
Brought forward ...	..	...	...	...	...	...	...	...	...	...	...	...	...
DISEASES OF THE GENERATIVE SYSTEM—*continued.*													
Female Organs:—													
Ovaritis	...	...	...	...	...	...	...	...	...	...	...	...	...
Ovarian cyst	...	...	...	...	...	...	...	...	...	...	...	...	...
Endometritis	...	2	1	...	...	...	...	...	...	...	...	...	...
Displacement of uterus	...	...	...	...	...	...	1	...	...	...	...	...	...
Vaginitis	...	...	...	...	...	...	2	...	...	...	...	...	...
Amenorrhœa	...	...	...	...	...	...	...	...	...	...	3	...	...
Dysmonorrhœa	...	...	4	...	...	...	3	...	...	2	3	...	...
Menorrhagia	...	...	2	...	...	..	2	...	...	...	4	...	...
Leucorrhœa	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases	...	...	...	...	...	1	1	...	...	...	1	...	...
AFFECTIONS CONNECTED WITH PREGNANCY.													
Abortion	...	1	1	...	...	...	...	...	...	1	...	1	...
Other Affections ...	...	1	1	...	...	3	...	...	...	...	...	...	..
AFFECTIONS CONNECTED WITH PARTURITION.													
Delayed Labour	...	...	...	...	...	...	...	...	..	...	...	...	...
Retained placenta ...	...	...	...	...	..	...	...	...	...	...	..	...	...
Premature Birth ...	...	...	...	...	...	...	...	...	...	...	2	1	...
Other Affections ...	...	...	...	...	...	...	...	...	...	...	...	...	...
AFFECTIONS CONSEQUENT ON PARTURITION.													
Post-partum hæmorrhage	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal septicæmia ...	...	...	..	...	...	...	...	...	...	...	...	...	...
Mastitis	...	...	...	...	...	...	1	...	...	...	1	...	...
Abscess of breast ...	...	...	..	...	...	...	...	...	...	...	...	...	...
Other Affections ...	...	...	1	...	...	...	...	...	...	...	...	...	...
DISEASES OF ORGANS OF LOCOMOTION.													
Osteitis	...	1	2	...	...	...	1	...	...	...	7	...	...
Arthritis	...	1	14	...	...	1	21	...	...	11	18	...	1
Spondylitis	...	...	...	...	...	...	...	...	...	...	...	...	...
Bursitis	...	...	4	...	...	1	3	...	...	2	9	...	...
Myalgia	...	7	82	...	...	5	62	...	...	3	90	...	...
Other Diseases	...	7	39	...	1	5	41	...	...	2	27	...	...
DISEASES OF CONNECTIVE TISSUE.													
Cellulitis	...	9	27	...	1	12	20	...	...	10	38	...	...
Abscess	...	8	45	...	...	9	43	...	...	13	42	...	1
Other Diseases	...	...	1	...	...	2	7	1	...	...	3	...	...
Carried forward ...	...	...	...	...	...	...	...	...	...	...	...	..	...

TABLE VI.—RETURN OF DISEASES AND DEATHS OF EUROPEANS FOR THE YEARS 1920, 1921, 1922—*continued.* NIGERIA.

Diseases.	Remaining in Hospital at end of 1919.	1920. In Patients. Total Admissions.	1920. Out Patients. Total Admissions.	1920. Deaths.	1921. Remaining at end of 1920.	1921. In Patients. Total Admissions.	1921. Out Patients. Total Admissions.	1921. Deaths.	1922. Remaining at end of 1921.	1922. In Patients. Total Admissions.	1922. Out Patients. Total Admissions.	1922. Deaths.	Remaining at end of 1922.
Local Diseases—*contd.*													
Brought forward ...	...	...	...	...	...	..	...	...	...	...	...	...	...
DISEASES OF THE SKIN.													
Ulcer	...	15	75	...	2	24	93	...	2	2	89	...	...
Urticaria	...	1	20	...	...	2	20	...	...	...	18	...	...
Eczema	...	1	42	...	...	1	58	...	...	2	55	...	...
Boil...	...	7	90	...	1	20	164	...	3	12	138	...	1
Carbuncle	...	2	7	1	...	5	6	...	1	3	3	1	...
Herpes	...	...	12	...	...	1	21	...	...	...	12	...	...
Psoriasis	...	2	1	...	...	4	3	...	...	1	5	...	...
Oriental sore	...	...	4	...	...	...	...	...	...	...	...	...	...
Tinea	...	...	101	...	...	...	145	...	...	1	164	...	...
Scabies	..	...	23	...	...	1	26	...	...	2	33	...	...
Acne	...	...	6	...	...	...	8	...	...	...	19	...	...
Prickly heat	...	3	49	...	...	...	48	...	...	...	35	...	...
Other Diseases	...	5	74	...	...	8	90	...	...	2	70	...	...
INJURIES.													
General	...	2	18	1	...	16	11	2	...	5	9	4	...
Local	1	42	283	1	...	36	379	...	...	44	375	...	...
TUMOURS.													
Benign	...	...	12	...	...	2	11	...	...	1	11	...	...
Malignant	...	...	...	...	...	1	...	...	...	1	...	1	...
MALFORMATIONS	...	...	1	...	...	...	3	...	...	...	1	...	...
POISONS.													
Vegetable	...	2	2	...	...	...	1	...	...	1	1	...	...
Animal	...	...	8	...	...	...	2	...	...	...	4	...	...
Other Poisons	...	1	21	...	...	2	16	...	...	...	14	1	...
PARASITES. ANIMAL PARASITES.													
Protozoa	...	...	...	...	...	...	...	...	...	...	...	...	...
Trematodes (Flukes) ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cestoda :—													
Tænia solium	...	...	2	...	...	...	1	...	...	1	1	...	...
Tænia sagninata... ...	...	...	3	...	...	...	6	...	...	...	9	...	...
Other Cestodes	...	...	1	...	...	...	...	...	...	...	1	...	...
Nematoda :—													
Ascaris	...	3	1	...	...	...	2	...	...	...	3	...	...
Tricocephalus dispar ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trichina	...	...	...	...	...	...	...	...	...	...	...	...	...
Dracunculus	...	...	...	...	...	...	2	...	...	...	...	...	...
Filaria ... ... Loa	...	1	20	...	...	...	6	...	...	3	10	...	...
Strongylus	...	...	...	...	...	...	...	...	...	...	...	...	...
Ankylostomum	...	...	...	...	...	1	2	...	...	...	...	...	...
Oxyuris	...	...	...	...	...	...	1	...	...	...	1	...	...
Other Nematodes ...	...	...	1	...	...	...	1	...	...	1	...	...	...
Insecta :—													
Insects producing myiasis	...	...	3	...	...	1	13	...	...	...	5	...	...
Dematophilus penetrans	...	...	13	...	...	...	10	...	...	...	16	...	...
Other Insects	...	...	5	...	...	...	25	...	...	...	22	...	...
Cause Unknown	...	...	...	...	...	...	...	...	...	...	...	1	...
Total	13	914	4,769	27	27	836	5,064	27	19	827	5,085	38	23

* Cause unknown.

TABLE VII.

RETURN OF DISEASES AND DEATHS OF NATIVES FOR THE YEARS 1920, 1921, 1922. NIGERIA.

Diseases.	Remaining in Hospital at end of 1919.	1920. In Patients. Total Admissions.	1920. Out Patients. Total Admissions.	1920. Deaths.	1921. Remaining at end of 1920.	1921. In Patients. Total Admissions.	1921. Out Patients. Total Admissions.	1921. Deaths.	1922. Remaining at end of 1921.	1922. In Patients. Total Admissions.	1922. Out Patients. Total Admissions.	1922. Deaths.	Remaining at end of 1922
Infective Diseases.													
Beri-Beri	1	6	...	1	...	18	1	9	...	2	4	...	...
Cerebro-Spinal Fever ...	...	10	...	1	...	77	91	2	5	1	1	1	...
Chicken Pox	79	968	309	14	27	520	150	3	33	1,116	169	1	59
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...
Dengue	...	...	1	...	...	...	1	...	...	...	...	...	...
Diphtheria	...	...	...	...	...	1	...	1	...	...	1	...	...
Dysentery:—													
(*a*) Amœbic	5	429	254	97	7	397	512	67	3	586	604	70	11
(*b*) Bacillary	6	56	63	10	...	25	18	7	1	11	16	2	...
(*c*) Type not determined	1	119	249	24	...	74	230	7	...	54	210	3	1
Endocarditis-infective ...	...	...	...	...	...	5	...	2	...	...	1	...	...
Enteric	...	5	...	1	1	8	...	4	...	5	...	3	1
Erysipelas	...	7	19	...	...	...	18	...	...	...	...	...	...
Gonorrhœa	42	732	1,878	3	24	745	2,541	2	23	602	2,565	4	37
Influenza	...	47	42	2	7	46	76	3	1	122	562	3	8
Kala-Azar	...	...	...	...	...	...	...	...	...	...	...	...	...
Leprosy:—													
(*a*) Nodular	502	525	32	48	35	488	36	26	432	26	43	14	159
(*b*) Anaesthetic	...	...	...	...	...	36	13	...	14	33	15	41	242
Malaria:—													
(*a*) Tertian	5	154	399	...	...	34	140	...	...	295	655	12	1
(*b*) Quartan	...	...	1	...	..	...	...	...	...	2	1	...	...
(*c*) Aestivo-autumnal ...	31	1,579	10,981	17	13	1,628	11,250	28	23	787	9,248	33	18
(*d*) Chronic	...	10	264	...	...	23	152	4	...	12	361	1	...
(*e*) Type not determined	...	15	200	...	...	36	722	3	...	98	1,147	...	...
Blackwater Fever	...	2	4	...	...	2	3	1	...	4	...	1	...
Measles...	1	25	64	...	...	14	44	...	...	15	51	1	...
Papataci Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague	...	...	6	...	...	...	...	...	...	..	...	...	...
Pneumonia	13	761	311	206	16	790	316	172	20	635	261	112	22
Pyrexia of uncertain origin...	...	61	175	...	1	116	881	1	2	111	471	2	1
Rabies	...	...	3	...	...	...	2	...	...	...	...	...	...
Relapsing Fever	...	...	...	...	...	...	...	...	...	1	...	...	...
Rheumatic Fever	4	9	23	1	...	11	77	...	...	9	39	...	1
Septicaemia	...	26	8	17	1	23	1	16	...	10	5	9	...
Small-pox	11	1,682	59	341	48	991	10	182	26	639	273	97	16
Syphilis (*a*) Primary ...	7	115	220	1	3	144	270	1	7	100	295	2	2
(*b*) Secondary ...	30	400	412	12	30	373	186	19	43	299	600	12	53
(c) Inherited ...	...	5	33	1	...	6	23	1	...	1	10	1	...
Tetanus...	3	29	13	19	2	29	9	16	...	36	8	22	...
Trypanosomiasis (Sleeping Sickness)	...	17	...	4	1	21	5	6	1	13	1	4	2
Tuberculosis	8	116	141	50	4	169	104	62	14	133	154	65	11
Undulant Fever	...	2	11	...	...	...	...	...	...	...	...	...	...
Whooping Cough	...	...	86	...	...	1	42	1	...	...	...	...	...
Yaws	6	187	672	1	3	230	909	4	5	165	844	2	5
Yellow Fever	...	1	...	1	...	...	...	...	...	1	...	..	...
Other Diseases	...	46	189	2	1	67	144	9	15	18	686	...	...
Carried forward ...													

TABLE VII.—RETURN OF DISEASES AND DEATHS OF NATIVES FOR THE YEARS 1920, 1921, 1922—*continued.* NIGERIA.

Diseases.	Remaining in Hospital at end of 1919.	1920. In Patients. Total Admissions.	1920. Out Patients. Total Admissions.	1920. Deaths.	1921. Remaining at end of 1920.	1921. In Patients. Total Admissions.	1921. Out Patients. Total Admissions.	1921. Deaths.	1922. Remaining at end of 1921.	1922. In Patients. Total Admissions.	1922. Out Patients. Total Admissions.	1922. Deaths.	Remaining at end of 1921.
Intoxications.													
Brought forward ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Alcoholism	...	...	2	...	...	3	3	...	...	5	2	...	...
Morphinism	...	...	...	...	...	..	...	...	...	...	...	...	...
Other Intoxications	...	1	...	...	...	2	8	1	...	...	2	...	..
General Diseases.													
Anæmia	...	95	992	9	10	90	1,559	3	6	68	1,116	5	2
Anæmia-Pernicious	...	1	...	1	...	...	...	...	...	...	...	...	...
Diabetes	...	1	1	1	...	2	3	...	...	1	15	...	...
Exophthalmic goitre... ...	...	2	3	...	...	...	1	...	...	...	...	...	...
Gout	...	...	3	...	...	...	2	...	...	...	1	...	...
Leucocythæmia	...	1	...	...	...	1	1	1	...	1	...	...	..
Lymphadenoma	...	...	...	...	...	...	...	...	...	1	...	1	...
Myxœdema	...	...	...	...	...	...	...	...	...	...	...	...	...
Purpura...	...	1	1	1	...	...	...	...	...	...	...	...	...
Rickets...	...	...	7	...	...	...	1	...	...	...	4	...	...
Scurvy	...	...	12	...	...	1	1	...	...	...	4	...	...
Other Diseases	2	197	2,455	15	8	149	1,369	6	4	121	639	3	5
Local Diseases.													
DISEASES OF THE NERVOUS SYSTEM.													
Sub-section 1.—Diseases of the Nerves:—													
Neuritis	...	25	104	...	5	28	100	...	1	13	109	5	...
Meningitis	...	8	6	6	...	14	5	13	1	11	...	7	...
Myelitis	...	1	...	...	...	1	2	1	...	3	1	...	...
Hydrocephalus	...	...	1	...	...	...	1	...	...	1	1	1	...
Encephalitis	...	...	...	...	...	6	...	4	...	1	2	1	...
Abscess of brain ...	...	1	...	...	...	2	...	2	...	2	...	2	...
Congestion of brain ...	...	1	1	1	...	2	61	...	...	2	...	...	...
Other Diseases	1	21	80	8	...	7	...	3	...	10	45	3	...
Sub-section 2.—Nervous Disorders and Diseases of Undetermined Nature:—													
Apoplexy	...	1	1	1	...	2	2	1	...	4	...	2	...
Paralysis	5	29	30	8	...	48	30	18	4	26	31	7	2
Chorea	...	...	3	1	...	1	1	...	...	2	...	1	...
Epilepsy	1	17	43	1	1	24	26	2	1	21	40	2	1
Neuralgia	3	161	2,315	...	1	217	2,197	...	1	134	2,141	...	...
Hysteria	...	4	...	...	...	6	6	1	...	7	8	...	...
Other Diseases	...	12	162	...	1	17	156	4	...	21	171	4	...
Sub-section 3.—Mental Diseases:—													
Idiocy	...	1	...	...	...	...	...	...	...	..	...	...	...
Mania	15	21	2	3	10	21	2	3	9	9	4	4	8
Melancholia	45	9	...	...	9	12	4	...	8	...	2	2	6
Dementia	...	9	8	1	2	13	3	4	1	2	1	...	1
Delusional Insanity ...	6	6	3	...	1	5	4	..	2	4	2	...	2
Other Diseases	...	9	1	...	...	2	2	...	...	7	1	4	...
Carried forward ...	...	...	...	...	...	...	...	...	...	...	...	...	..

TABLE VII.—RETURN OF DISEASES AND DEATHS OF NATIVES FOR THE YEARS 1920, 1921, 1922—*continued.* NIGERIA.

Diseases	1920. Remaining in Hospital at end of 1919.	1920. In Patients. Total Admissions.	1920. Out Patients. Total Admissions.	1920. Deaths.	1920. Remaining at end of 1920.	1921. In Patients. Total Admissions.	1921. Out Patients. Total Admissions.	1921. Deaths.	1921. Remaining at end of 1921.	1922. In patients. Total Admissions.	1922. Out Patients. Total Admissions.	1922. Deaths.	Remaining at end of 1922.
Local Diseases—*contd.*													
Brought forward	...	...	...	...	...	...	...	...	...	...	...	...	...
DISEASES OF THE EYE.													
Conjunctivitis	6	148	2,481	...	1	154	2,718	...	...	127	2,930	...	7
Keratitis	...	13	112	...	...	6	33	...	...	7	38	...	...
Ulceration of cornea ...	...	9	36	...	...	21	101	...	...	9	35	...	1
Iritis	1	8	19	...	...	11	12	...	...	6	50	...	1
Optic neuritis	...	1	4	...	...	2	1	...	...	4	3	...	...
Cataract	1	19	76	...	...	13	26	...	2	7	36	...	...
Other Diseases	1	31	238	...	2	32	229	...	1	30	284	...	1
DISEASES OF THE EAR.													
Inflammation	...	48	1,278	...	...	42	1,673	...	2	26	1,816	...	1
Other Diseases	...	5	540	...	...	16	694	1	...	4	542	...	...
DISEASES OF THE NOSE.													
Inflammation	...	3	42	...	...	5	33	...	...	1	93	...	...
Other Diseases	...	7	44	...	...	10	115	...	...	2	68	...	...
DISEASES OF THE CIRCULATORY SYSTEM.													
Pericarditis	..	6	7	3	1	9	1	7	...	11	7	3	1
Endocarditis	...	7	25	2	...	8	20	7	...	8	4	2	1
Valvular Disease:													
(1) Mitral	2	10	236	8	2	91	257	17	...	59	223	24	6
(2) Aortic	2	18	56	6	1	115	407	6	...	21	178	4	3
(3) Tricuspid	..	...	...	...	...	...	...	...	...	2	...	1	...
(4) Pulmonary	2	1	2	...	1	...	1	...	...	4	...	...	
Arterial sclerosis	1	2	1	..	1	1	...	...	1	1	...	...	
Aneurism	...	5	9	2	...	6	5	...	...	8	17	3	1
Other Diseases	1	33	63	6	1	25	136	6	1	27	66	10	3
DISEASES OF THE RESPIRATORY SYSTEM.													
Laryngitis	...	40	175	...	...	7	159	...	...	18	127	1	...
Bronchitis	34	719	12,524	19	15	1,161	13,979	15	9	614	15,667	15	26
Broncho-pneumonia ...	4	152	420	19	1	84	164	14	...	99	56	19	4
Abscess of Lung... ...	...	1	1	...	...	...	..	..	...	1	...	...	...
Gangrene of Lung ...	...	...	...	...	...	...	1	...	...	1	1	...	...
Emphysema	1	2	4	...	...	...	...	...	...	...	...	...	...
Pleurisy	11	127	275	11	4	165	412	6	1	102	288	5	3
Empyema	1	8	40	2	2	5	4	2	...	...	...	...	...
Other Diseases	2	56	245	...	3	35	298	3	1	15	371	1	...
DISEASES OF THE DIGESTIVE SYSTEM.													
Stomatitis	...	20	611	1	...	33	601	1	...	16	764	...	...
Caries of teeth	...	24	1,235	...	...	30	1,382	...	...	14	1,274	...	...
Pyorrhœa alveolaris ...	...	11	121	...	...	13	145	2	...	...	74	...	...
Glossitis	...	5	128	...	...	2	157	...	...	1	254	...	...
Sore throat	1	16	223	1	...	7	218	...	...	9	215	1	...
Inflammation of tonsils	1	17	327	...	...	25	479	...	...	17	435	...	1
Carried forward	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE VII.—RETURN OF DISEASES AND DEATHS OF NATIVES FOR THE YEARS 1920, 1921, 1922—*continued.* NIGERIA.

Diseases.	Remaining in Hospital at end of 1919.	1920. In Patients. Total Admissions.	1920. Out Patients. Total Admissions.	1920. Deaths.	1921. Remaining at end of 1920.	1921. In Patients. Total Admissions.	1921. Out Patients. Total Admissions.	1921. Deaths.	1922. Remaining at end of 1921.	1922. In Patients. Total Admissions.	1922. Out Patients. Total Admissions.	1922. Deaths.	Remaining at end of 1922.
Local Diseases—*contd.*													
Brought forward ...	...	...	...	...	...	...	...	...	...	...	...	...	...
DISEASES OF THE DIGESTIVE SYSTEM—*continued.*													
Gastritis	4	67	744	..	2	65	841	...	2	57	731	1	2
Ulceration of stomach ...	...	...	2	...	...	...	23	...	...	2	...	1	...
Hæmatemesis	...	...	3	...	...	2	1	...	...	1	4	...	...
Dilatation of stomach ...	...	...	...	...	...	1	...	...	...	...	1	...	...
Stricture of stomach ...	...	1	12	1	...	2	3	...	...	1	...	...	...
Dyspepsia	1	26	1,496	..	...	29	5,810	...	...	15	1,127	...	1
Enteritis	...	54	146	25	2	40	115	12	...	37	111	6	...
Appendicitis	...	11	22	2	...	9	10	...	1	10	7	...	...
Colitis	...	38	138	5	1	39	186	2	...	36	235	1	...
Ulceration of intestines	...	...	...	...	...	3	52	2	...	4	...	...	...
Sprue	...	...	...	...	...	...	...	...	...	...	...	...	...
Hernia	25	393	297	14	16	414	252	19	18	512	334	18	25
Diarrhœa	15	969	2,958	85	14	904	2,734	41	3	775	2,752	39	19
Constipation	...	134	9,662	...	1	148	10,214	...	...	82	9,827	2	...
Colic	2	157	2,298	...	2	208	3,250	2	1	90	2,933	1	...
Hæmorrhoids	1	42	258	...	...	35	286	1	1	41	274	1	1
Pancreatitis	...	2	1	...	...	...	5	...	...	...	...	...	...
Hepatitis—Acute ...	...	36	58	6	...	35	113	4	...	20	115	3	...
Abscess	1	9	2	5	1	8	19	3	...	30	47	2	2
Cirrhosis	...	11	4	4	...	14	5	4	1	12	2	10	1
Jaundice	...	15	19	3	...	16	20	1	1	22	30	2	2
Peritonitis	...	17	23	9	1	24	15	13	...	14	19	5	...
Ascites	1	22	16	11	2	47	22	9	4	16	31	7	1
Other Diseases	13	68	211	9	2	42	340	8	2	37	387	8	2
DISEASES OF THE LYMPHATIC SYSTEM.													
Splenitis	...	14	474	...	...	28	584	2	...	15	386	1	2
Inflammation of lymphatic gland	8	167	959	...	3	221	1,241	...	7	165	1,043	...	9
Suppuration of lymphatic gland	6	101	331	1	...	86	272	...	3	111	244	...	3
Lymphangitis	...	7	50	...	...	12	87	...	1	4	69	...	...
Elephantiasis	9	82	51	1	3	85	75	2	2	50	67	...	10
Other Diseases	3	17	78	1	1	17	45	1	1	9	21	...	1
DISEASES OF THE URINARY SYSTEM.													
Acute nephritis	3	28	49	9	...	28	25	5	...	15	40	10	2
Bright's Disease ...	...	12	5	6	...	21	18	8	3	14	10	6	1
Pyelitis	...	1	...	...	...	1	...	1	...	1	1	1	...
Calculus	...	...	...	...	...	...	...	...	...	2	...	...	...
Renal colic	...	1	3	...	...	...	...	...	...	...	1	...	...
Cystitis	...	30	114	5	...	37	129	2	...	20	103	1	...
Vesical calculus	...	...	2	...	...	1	1	...	...	1	...	...	...
Suppression	...	...	2	...	...	2	1	...	...	1	...	...	...
Hæmaturia	...	7	13	...	...	2	6	...	...	5	16	...	...
Chyluria	...	...	...	...	...	...	1	...	...	...	...	...	...
Other Diseases	...	11	18	4	...	12	27	3	...	29	53	...	...
Carried forward ...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE VII.—RETURN OF DISEASES AND DEATHS OF NATIVES FOR THE YEARS 1920, 1921, 1922—*continued.* NIGERIA.

Diseases.	Remaining in Hospital at end of 1919.	1920. In Patients. Total Admissions.	1920. Out Patients. Total Admissions.	1920. Deaths.	Remaining at end of 1920.	1921. In Patients. Total Admissions.	1921. Out Patients. Total Admissions.	1921. Deaths.	Remaining at end of 1921.	1922. In Patients. Total Admissions.	1922. Out Patients. Total Admissions.	1922. Deaths.	Remaining at end of 1922.
Local Diseases—*contd.*													
Brought forward ...	...	...	...	...	...	...	...	...	...	...	...	...	...
DISEASES OF THE GENERATIVE SYSTEM.													
Male Organs:—													
Urethritis	...	9	42	...	1	7	52	...	...	3	58	...	...
Gleet	...	3	46	...	...	4	49	...	...	3	112	...	...
Stricture	3	73	112	5	6	95	201	9	8	82	227	8	6
Prostatitis	...	5	45	...	...	5	3	...	...	5	3	...	...
Soft chancre	4	81	219	...	7	78	222	...	8	88	286	...	10
Condyloma	1	1	8	...	...	2	1	...	...	1	3	...	...
Inflammation of scrotum	...	8	22	...	1	9	10	...	2	6	5	...	1
Hydrocele	1	118	96	1	4	136	98	1	5	92	133	1	6
Orchitis	3	91	213	...	2	81	207	1	1	73	211	...	2
Epididymitis	2	30	79	...	1	52	110	...	...	31	86	...	1
Abscess of testicle ...	...	4	12	...	...	3	19	...	1	2	12	...	...
Other Diseases	1	62	88	1	1	79	101	1	1	94	136	2	4
Female Organs:—													
Ovaritis	...	1	11	...	...	4	31	...	...	...	14	..	...
Ovarian cyst	...	3	4	1	...	3	11	...	...	7	...	...	...
Endometritis	...	33	83	...	1	15	140	...	...	7	103	2	...
Displacement of uterus	...	8	9	...	...	3	9	1	1	2	8	...	...
Vaginitis	...	9	15	...	...	3	50	...	...	7	35	...	...
Amenorrhœa	...	1	80	...	1	3	94	...	...	1	58	...	...
Dysmenorrhœa	...	3	84	...	...	11	117	...	...	2	125	...	...
Menorrhagia	1	3	97	...	...	7	48	..	...	3	52	...	...
Leucorrhœa	...	2	36	...	...	1	44	...	...	4	22	...	...
Other Diseases	2	25	44	4	1	26	88	...	...	15	104	3	...
AFFECTIONS CONNECTED WITH PREGNANCY.													
Abortion	...	15	39	...	1	11	54	1	...	10	51	1	...
Other Affections ...	...	3	41	...	...	5	50	2	...	4	32	...	...
AFFECTIONS CONNECTED WITH PARTURITION.													
Delayed Labour	...	36	3	8	...	20	14	7	..	34	4	4	...
Retained placenta ...	...	7	2	2	...	6	6	2	...	1	4	...	...
Premature Birth ...	...	5	5	2	...	3	9	...	1	3	3	...	...
Other Affections ...	...	4	10	...	...	8	12	...	...	5	6	1	...
AFFECTIONS CONSEQUENT ON PARTURITION.													
Post-partum hæmorrhage	...	...	2	...	...	1	1	...	..	...	4	...	...
Puerperal septicæmia ...	...	4	...	3	...	2	4	2	...	3	1	2	...
Mastitis	...	7	59	...	...	3	69	...	...	...	69	...	...
Abscess of breast ...	...	1	8	...	...	2	9	...	...	7	15	...	...
Other Affections ...	...	6	30	...	...	1	23	...	...	...	5	...	...
Carried forward ...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE VII.—RETURN OF DISEASES AND DEATHS OF NATIVES FOR THE YEARS 1920, 1921, 1922—*contd.* NIGERIA.

Diseases.	Remaining in Hospital at end of 1919.	1920. In Patients. Total Admissions.	1920. Out Patients. Total Admissions.	1920. Deaths.	Remaining at end of 1920.	1921. In Patients. Total Admissions.	1921. Out Patients. Total Admissions.	1921. Deaths.	Remaining at end of 1921.	1922. In Patients. Total Admissions.	1922. Out Patients. Total Admissions.	1922. Deaths.	Remaining at end of 1922.
Local Diseases—*contd.*													
Brought forward ...	...	...	...	...	...	...	...	...	...	...	...	...	...
DISEASES OF ORGANS OF LOCOMOTION.													
Osteitis	4	22	97	...	3	32	309	1	3	35	187	1	3
Arthritis	7	330	2,783	2	10	176	2,477	...	3	356	3,937	6	9
Spondylitis	...	...	7	...	...	1	...	...	...	2	5	...	1
Bursitis	...	13	95	...	...	33	96	...	...	19	115	...	3
Myalgia	7	239	6,016	...	3	136	7,301	1	5	196	6,081	1	7
Other Diseases	6	144	933	1	10	121	1,065	2	1	119	904	1	6
DISEASES OF CONNECTIVE TISSUE.													
Cellulitis	15	295	1,394	1	7	369	1,686	2	24	270	1,563	5	11
Abscess	23	673	2,346	8	21	810	2,917	13	23	675	2,917	8	30
Other Diseases	2	76	124	...	...	8	242	1	2	33	113	3	...
DISEASES OF THE SKIN.													
Ulcer	52	1,321	16,195	3	45	1,523	11,957	3	58	1,511	12,997	7	66
Urticaria	...	6	109	...		2	109	...	...	3	209	...	...
Eczema	3	155	1,796	...	1	57	1,628	...	...	43	2,419	...	...
Boil	2	106	1,463	...	...	120	1,648	...	3	82	1,530	...	2
Carbuncle		7	18	...	...	7	8	...	...	8	22	...	1
Herpes	...	6	64	...	...	3	92	...	...	7	70	...	...
Psoriasis	...	2	18	...	...	1	55	...	1	...	12	...	...
Oriental sore	...	...	...	...	...	...	...	...	...	...	...	...	...
Tinea	1	34	1,753	...	...	48	2,314	...	...	6	2,235	...	...
Scabies	1	53	1,962	...	5	104	3,200	...	...	65	3,889	...	...
Acne	...	1	5	...	...	...	11	...	...	...	17	...	...
Prickly heat	...	1	49	...	1	2	8	...	...	2	49	...	6
Other Diseases	8	70	1,168	2	5	69	1,433	1	1	16	1,189	...	2
INJURIES.													
General	6	63	238	17	1	49	92	19	4	60	305	11	1
Local	66	1,638	22,096	43	51	2,148	25,542	40	70	1,513	25,234	59	64
TUMOURS.													
Benign	5	87	149	1	4	128	188	3	6	75	284	...	2
Malignant		12	17	...	1	35	21	3	1	14	7	2	...
MALFORMATIONS		6	10	...	...	7	14	1	...	7	10	...	...
POISONS.													
Vegetable		4	3	2	...	4	2	...	...	...	...	...	...
Animal		31	58	1	...	13	44	3	2	11	54	1	...
Other Poisons		16	38	2	...	10	34	1	...	10	19	3	...
PARASITES.													
ANIMAL PARASITES.													
Protozoa		...	...	...	...	...	2	...	..	...	...	...	...
Trematoda (Flukes)		6	7	...	...	7	4	...	...	18	21	1	2
Carried forward		...	...	...	...	...	...	...	...	...	...	..	...

TABLE VII.—RETURN OF DISEASES AND DEATHS OF NATIVES FOR THE YEARS 1920, 1921, 1922—*continued.* NIGERIA.

Diseases.	1920. Remaining in Hospital at end of 1919.	1920. In Patients. Total Admissions.	1920. Out Patients. Total Admissions.	1920. Deaths.	1921. Remaining at end of 1920.	1921. In Patients. Total Admissions.	1921. Out Patients. Total Admissions.	1921. Deaths.	1922. Remaining at end of 1921.	1922. In Patients. Total Admissions.	1922. Out Patients. Total Admissions.	1922. Deaths.	Remaining at end of 1922.
Local Diseases—*contd.*													
Brought forward	...	...	...	...	...	..	...	...	...	...	...	...	...
Cestoda:—													
Tænia solium	1	89	274	...	...	9	144	1	...	12	222	...	...
Tænia sagninata ...	...	112	1,148	1	...	68	1,168	...	...	32	1,055	...	1
Other Cestodes	...	4	1	...	...	...	43	...	...	3	47	...	...
Nematoda:—													
Ascaris	1	137	2,565	3	1	90	2,908	...	1	115	2,468	2	...
Tricocephalus dispar ...	...	...	. .	...	...	...	...	...	...	1	...	...	...
Trichina	...	...	2	...	...	...	1	...	...	...	...	...	.
Dracunculus	9	282	736	...	4	244	596	1	8	301	901	1	13
Filaria	1	29	136	1	...	36	232	...	1	59	191	2	7
Strongylus	...	15	1	2	...	...	...	..	1	...	...	...	...
Ankylostomum	63	776	299	158	8	197	187	30	6	168	218	28	9
Oxyuris	...	6	28	...	...	..	8	...	...	5	11	...	...
Other Nematodes ...	...	23	8	1	...	13	17	1	1	18	19	...	...
Insecta:—													
Insects producing myiasis	...	...	22	...	...	...	5	...	...	1	2	...	...
Dematophilus penetrans	1	13	33	1	...	8	161	...		3	121	...	...
Other Insects	...	4	70	...	...	7	82	1	...	4	35	...	...
Total ...	1,296	20,501	133,456	1,503	570	20,584	151,226	1,114	1,027	16,478	144,319	953	1,097